



**Allegheny County Health Department
Air Quality Program
301 39th Street, Building 7
Pittsburgh, PA 15201**

Air Monitoring Network Plan for 2018

June 30, 2017

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(1) EPA REQUIREMENTS FOR AIR MONITORING NETWORK DESCRIPTIONS

In October 2006, the U.S. EPA issued final regulations concerning state and local agency ambient air monitoring networks. In addition, EPA Region III requested that network descriptions contain information described in 40 CFR Part 58 §58.10.

§58.10 (a) requires for each existing and proposed monitoring site:

1. A statement of purpose for each monitor.
2. Evidence that siting and operation of each monitor meets the requirements of appendices A, C, D, and E of 40 CFR Part 58, where applicable.
3. Proposals for any State and Local Air Monitoring station (SLAMS) network modifications.
4. The annual monitoring network plan must be made available for public inspection for at least 30 days prior to submission to EPA (submission deadline is July 1, 2016).

§58.10 (b) requires:

1. The Air Quality System (AQS) site identification number.
2. The location, including street address and geographical coordinates.
3. The sampling and analysis method(s) for each measured parameter.
4. The operating schedules for each monitor.
5. Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
6. The monitoring objective and spatial scale of representativeness for each monitor.
7. The identification of any sites that are suitable and sites that are not suitable for comparison against the annual PM_{2.5} NAAQS as described in §58.30.
8. The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Combined Statistical Area (CSA) or other area represented by the monitor.

(1.1) Data Certification

Regarding all data generated by the criteria pollutant monitors described in this network review, no later than May 1, 2018, ACHD will submit a letter certifying accuracy and reliability of CY 2017 criteria air pollutant monitoring data reported to AQS to the Mid Atlantic Regional Administrator in hard copy. An electronic copy of this information will also be sent to the Mid-Atlantic Region Associate Director, Office of Air Monitoring and Planning by May 1, 2018.

ACHD's data certification will contain all required reports and will be accompanied with a statement from a responsible local official who certifies that;

- The ambient concentration data and the quality assurance data have been completely reported to the AQS database.
- The ambient data are accurate to the best of his or her knowledge taking into consideration all applicable quality assurance findings per 40 CFR Section 58.15(a).

(2) CHANGES SINCE THE LAST AIR MONITORING NETWORK PLAN**(2.1) Monitor Reductions****(2.1.1) Avalon PM₁₀ Sampler**

ACHD discontinued the Avalon PM₁₀ high volume sampler at the end of January 2017. Shenango Coke Works, the major source of PM₁₀ particles near the monitoring site permanently shut down during mid-January 2016. ACHD discontinued the Avalon PM₁₀ monitor after collecting one year of post-shutdown PM₁₀ data.

(2.2) Monitor Additions**(2.2.1) Avalon PM_{2.5} FEM Continuous Monitor**

ACHD added a PM_{2.5} FEM continuous monitor to the Avalon site on January 1, 2017. This monitor is assigned primary monitor status at the Avalon site. The PM_{2.5} FRM filter based sampler will continue to operate at this site and will serve as a collocated monitor.

(2.2.2) Harrison Ozone Collocated Monitor

A second ozone monitor was added to the Harrison site prior to the 2017 ozone season. This monitor is operated in a collocated status. Data from this monitor will be substituted in AQS if data from the primary monitor is invalidated. This monitor was installed in response to less than optimal performance and data capture of the ozone monitor at the Harrison site during the 2016 ozone season.

(3) PROPOSED CHANGES TO THE AIR MONITORING NETWORK

(3.1) Monitor Reductions

40CFR58 app D 4.5(a) indicates that states and local agencies must operate one source-oriented SLAMS monitor located to measure the maximum lead concentration in ambient air resulting from each non-airport lead source which emits 0.50 or more tons of lead per year and from each airport which emits 1.0 or more tons of lead per year per year. As of the date of this plan, Allegheny County does not have any lead sources above these threshold limits and therefore is not required to monitor for ambient concentrations of lead.

(3.1.1) Bridgeville Lead Monitor

ACHD plans to discontinue the Bridgeville lead monitor at the end of the 2017 calendar year. The General Electric Bridgeville plant, the sole major lead source in the area, has ceased operations and has announced plans to permanently close the plant. Additionally, over three years of data in compliance with the 2008 lead NAAQS has been collected at this site since the last lead exceedance measured during May 2014.

(3.1.2) Lawrenceville Lead Monitor

ACHD plans to discontinue lead monitoring at the Lawrenceville NCORE air monitoring site at the end of the 2017 calendar year. Lead monitoring is not a required NCORE monitoring parameter and the 2008 lead NAAQS have never been exceeded at the Lawrenceville NCORE location.

(3.2) Monitor Additions

(3.2.1) PAMS Site Addition

EPA proposed changes to the PAMS (Photochemical Assessment Monitoring Stations) monitoring network requirements as part of the Ozone NAAQS review. Final changes published in the Federal Register on October 27, 2015 included a requirement for PAMS measurements to be collocated with existing NCORE sites in areas with population of 1 million or more. The Lawrenceville NCORE site will be required to measure these additional parameters by June 1, 2019. Additional required measurements include hourly volatile organic compounds, carbonyls, continuous true NO₂, and hourly mixing height. Additional meteorology measurements will include atmospheric pressure, precipitation, solar radiation and UV radiation. ACHD plans to install the required equipment at the Lawrenceville NCORE air monitoring location and to begin producing valid data no later than the required date of June 1, 2019.

(3.3) PM_{2.5} Waiver Request**(3.3.1) Clairton and North Park**

ACHD has operated Clairton and North Park PM_{2.5} federal reference type monitors on the every 6-day frequency since they were initially installed as special purpose monitors. As of last year, these monitors are now designated as SLAMS. ACHD is using this network plan to formally request a waiver to continue to operate the Clairton and North Park PM_{2.5} samplers every six days, acknowledging that SLAMS monitors are required to operate at least every three days. As discussed in section 5.6 of this ANP, ACHD greatly exceeds the required number of PM_{2.5} monitoring sites, but it is desirable to maintain the current geographical coverage of the PM_{2.5} network without creating undue burden on field staff and on the weighing laboratory.

(4) AIR MONITORING NETWORK SUMMARY

Table 4 and Figure 4 are provided as overviews of the air monitoring network, and are presented here to show at a glance the numbers and general types of air monitors currently maintained by the Air Quality Program as well as the general location of each fixed monitoring site in respect to stationary air pollution sources. To view live and recent data for all continuous monitors listed in the table, see the Air Quality Program website;

<http://www.achd.net/air/air.html>

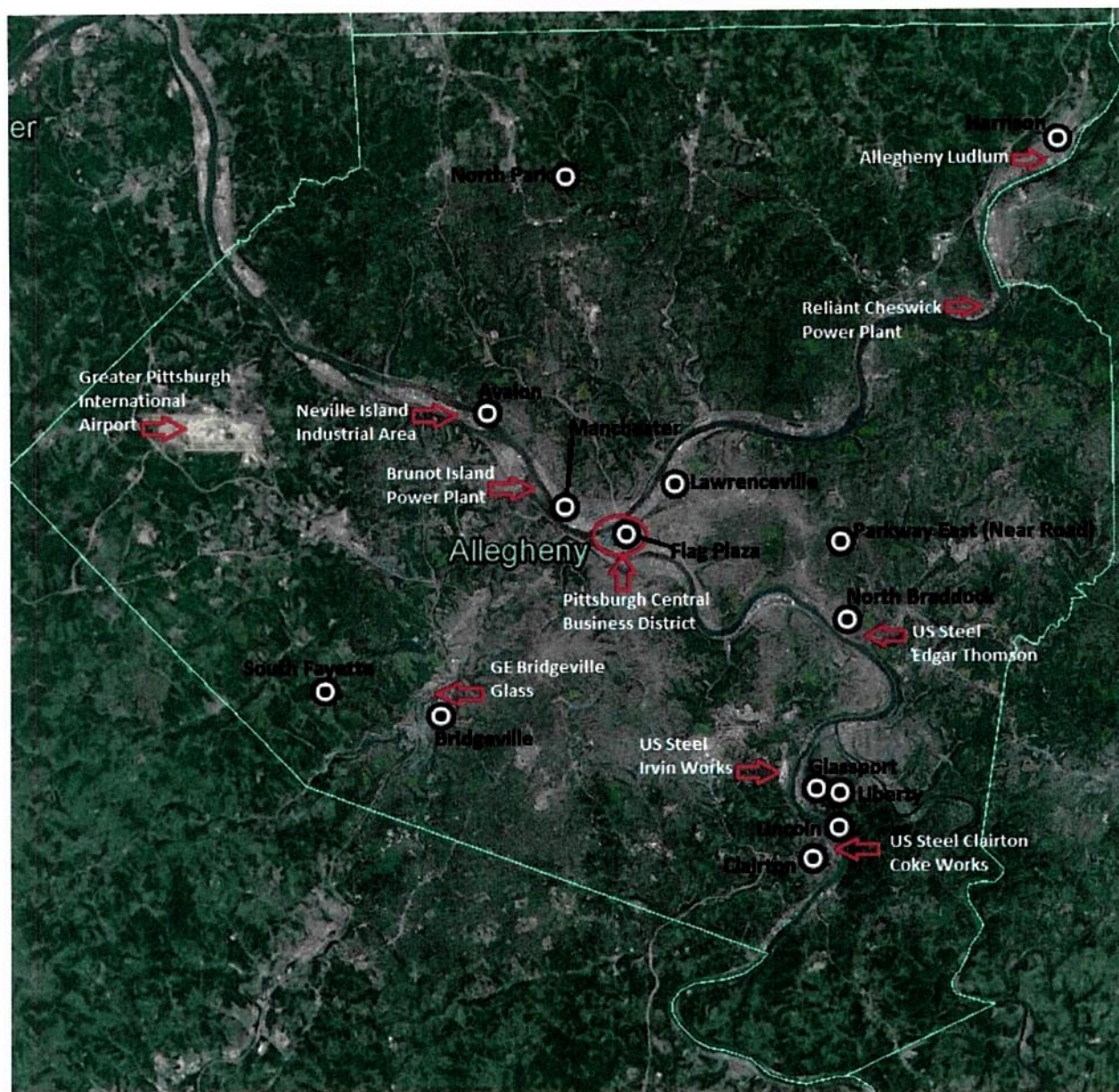
(Table 4) AIR MONITORING NETWORK SUMMARY

	SO ₂	CO	NO ₂	NO _y	O ₃	PM ₁₀	PM _{2.5}	PM coarse	Pb	Air Toxics
Lawrenceville NCORE	CT	CT		CT	C		C I(1), IQA(6) SPC(3)	C	I(6), QA(6)	
Liberty	C					C I(3), IQA(6)	CN I(1), IQA(6) SPC(6)			
North Braddock	C					C	I(3)			
South Fayette	C				CS	I(6)	I(3)			
Clairton						I(6)	I(6)			
Avalon	C						I(3), C			
Flag Plaza		C				C				T15(6) T11(6)
Glassport						C				
Lincoln						C				
Pittsburgh 8						I(6)				
Harrison			C		C QA		I(3)			
North Park							I(6)			
Bridgeville									I(3)	
Parkway East Near Road		CT	CT				C			BC(C)
	SO ₂	CO	NO ₂	NO _y	O ₃	PM ₁₀	PM _{2.5}	PM coarse	Pb	Air Toxic
Total	C = 4 CT = 1	C = 1 CT = 2	C = 1 CT = 1	CT = 1	C = 3 CS = 1 QA = 1	C = 5 I = 4 IQA = 1	C = 3 CN = 1 I = 8 IQA = 2 SPC = 2	C = 1	I = 2 IQA = 1	I = 3

CHART KEY

I = Intermittent or Filter-Based	C = Continuous	SPC = PM _{2.5} Speciation	S = Seasonal Monitor
T = Trace Level Monitor	(1), (3), or (6) = Sampling Frequency [for example, (3) means every third day]		
T15 = SUMMA TO15	T11 = Carbonyl TO11	BC = Black Carbon (Aethalometer, continuous data)	
QA = Collocated QA monitor,	Red Shading = Candidate for Discontinuation		
N = Nonregulatory criteria pollutant monitor that does not have EPA designated reference or equivalent status			

(Figure 4) 2017 Air Monitoring Sites and Stationary Air Pollution Sources



Stationary Air Pollution Sources - 

Air Monitoring Sites - 

(5) Monitoring Network Requirements

Requirements for the number and types of monitoring sites and the configuration of each monitoring site in respect to SLAMS monitoring is determined by the USEPA. Monitoring network requirements are in 40CFR58 Appendix D. EPA updates this document routinely in response to NAAQS revisions and in response to evolving air monitoring network objectives. The following sections provide the current requirements for each criteria pollutant as applied to the Allegheny County air monitoring network.

Many of the following monitoring requirements are based on population density of the monitoring area. For Allegheny County, the Pittsburgh MSA (metropolitan statistical area) is referenced. The latest census (2010) determined the population of the Pittsburgh MSA to be 2,356,285 people. Some monitoring requirements are also based on individual pollutant design values, which are concentrations derived from past data generated by SLAMS monitors in Allegheny County. Design values referenced in this section are based on tables available at:

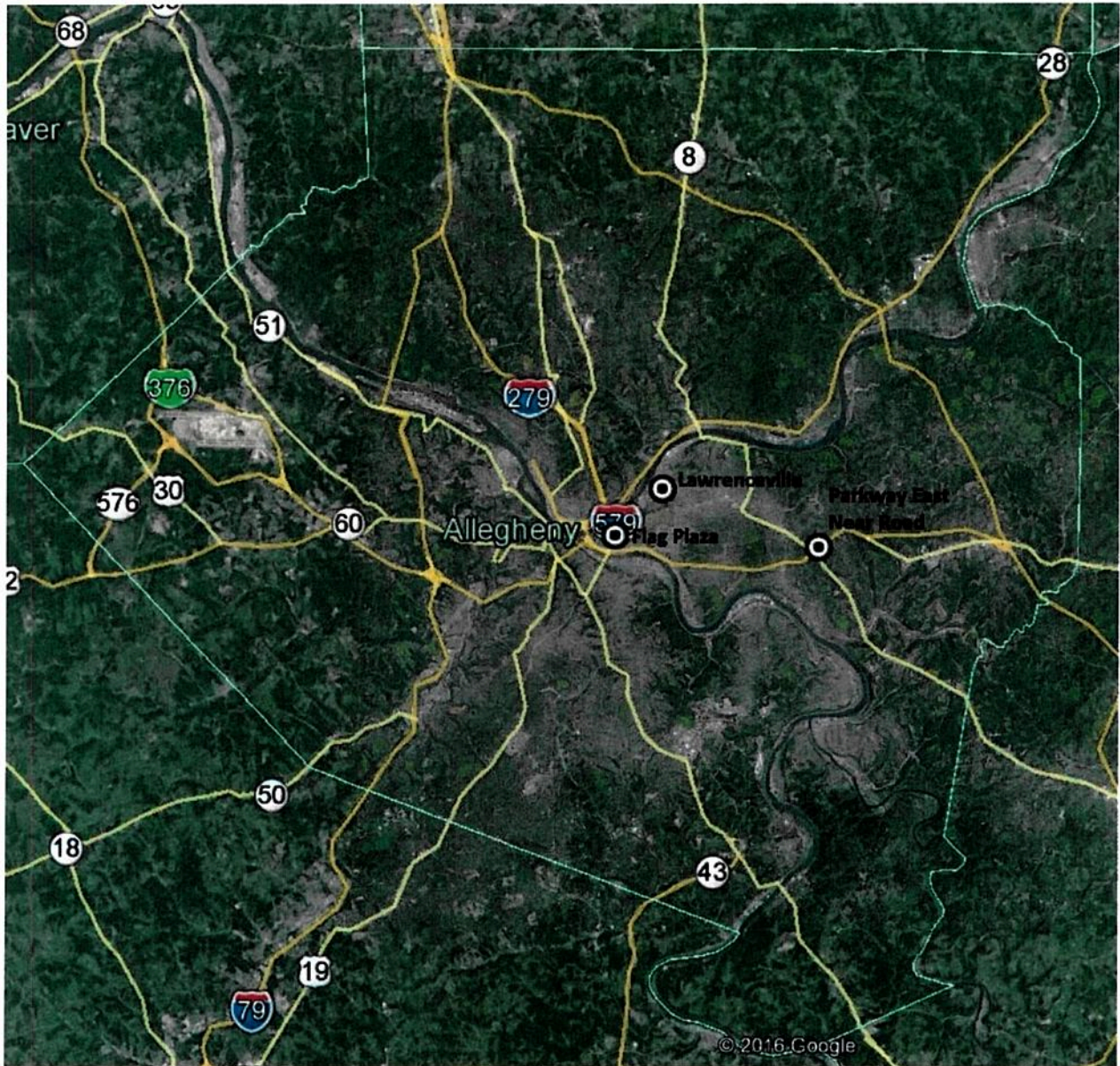
<http://www.epa.gov/airtrends/values.html>

(5.1) Carbon Monoxide Monitoring Requirements

EPA revised the minimum monitoring requirements for carbon monoxide (CO) on August 12, 2011 (40 CFR 58 Appendix D). Applicable requirements are;

- One CO monitor is required to be collocated with a near road NO₂ monitor in urban areas having a population of 1 million or more. ACHD included a CO monitor in the initial configuration of the Parkway East Near Road monitoring site, which was operational on 09/01/2014.
- One CO monitor is required at each NCORE site. ACHD has operated a CO monitor at the Lawrenceville NCORE site since 4/1/2010.
- ACHD operates an additional, non-required CO monitor at Flag Plaza. This site is in the Pittsburgh central business district and the CO monitor is operated to access impact from mobile emissions in this congested area.

(Figure 5.1) 2017 Carbon Monoxide Monitors and Major Roadways

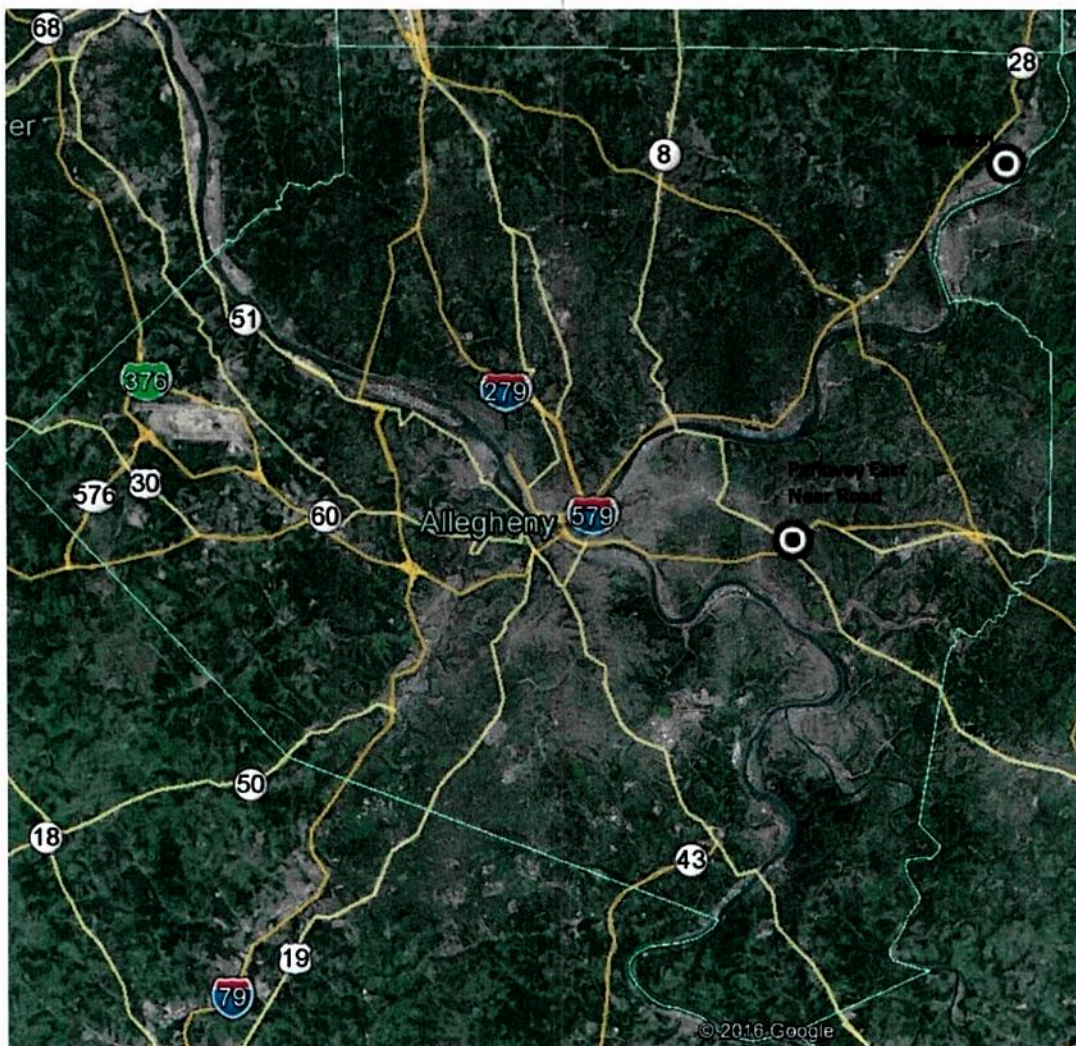


(5.2) Nitrogen Dioxide Monitoring Requirements

On January 22, 2010, EPA strengthened the health-based National Ambient Air Quality Standard (NAAQS) for nitrogen dioxide (NO₂) by setting a new 1-hour NAAQS at 100 ppb. The existing annual average NAAQS of 53 ppb was retained. In addition to establishing a new 1-hour NO₂ NAAQS, EPA revised the NO₂ monitoring requirements in urban areas. Applicable requirements are as follows;

- One near road NO₂ monitoring site is required in MSA's with a population $\geq 500,000$ and $< 2,500,000$ people. ACHD activated the Parkway East NO₂ near road monitoring site on 09/01/2014.
- One area wide NO₂ monitor in MSA's with a population > 1 million. The Harrison NO₂ monitor has been in operation at the current location since 02/12/2014.

(Figure 5.2) 2017 Nitrogen Dioxide Monitors and Major Roadways



(5.3) Sulfur Dioxide Monitoring Requirements

The minimum number of required SO₂ monitors in each MSA is proportional to the product of the total amount of SO₂ emissions in the MSA and its population as specified in 40 CFR Part 58, Appendix D, Section 4.4. The resulting value is defined as the Population Weighted Emissions Index (PWEI). Using the ACHD 2014 emission inventory aggregate SO₂ emissions and 2010 census data for the Pittsburgh MSA, the PWEI is calculated at 20,096. SO₂ requirements are as follows;

- For any MSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO₂ monitor is required within that CBSA. ACHD exceeds this minimum requirement with a total of five SO₂ monitors.
- Each NCORE station must operate an SO₂ monitor. ACHD included an SO₂ monitor as part of the initial configuration of the Lawrenceville NCORE site and the monitor has been operational since 4/1/2010.

(Figure 5.3) 2017 Sulfur Dioxide Monitors

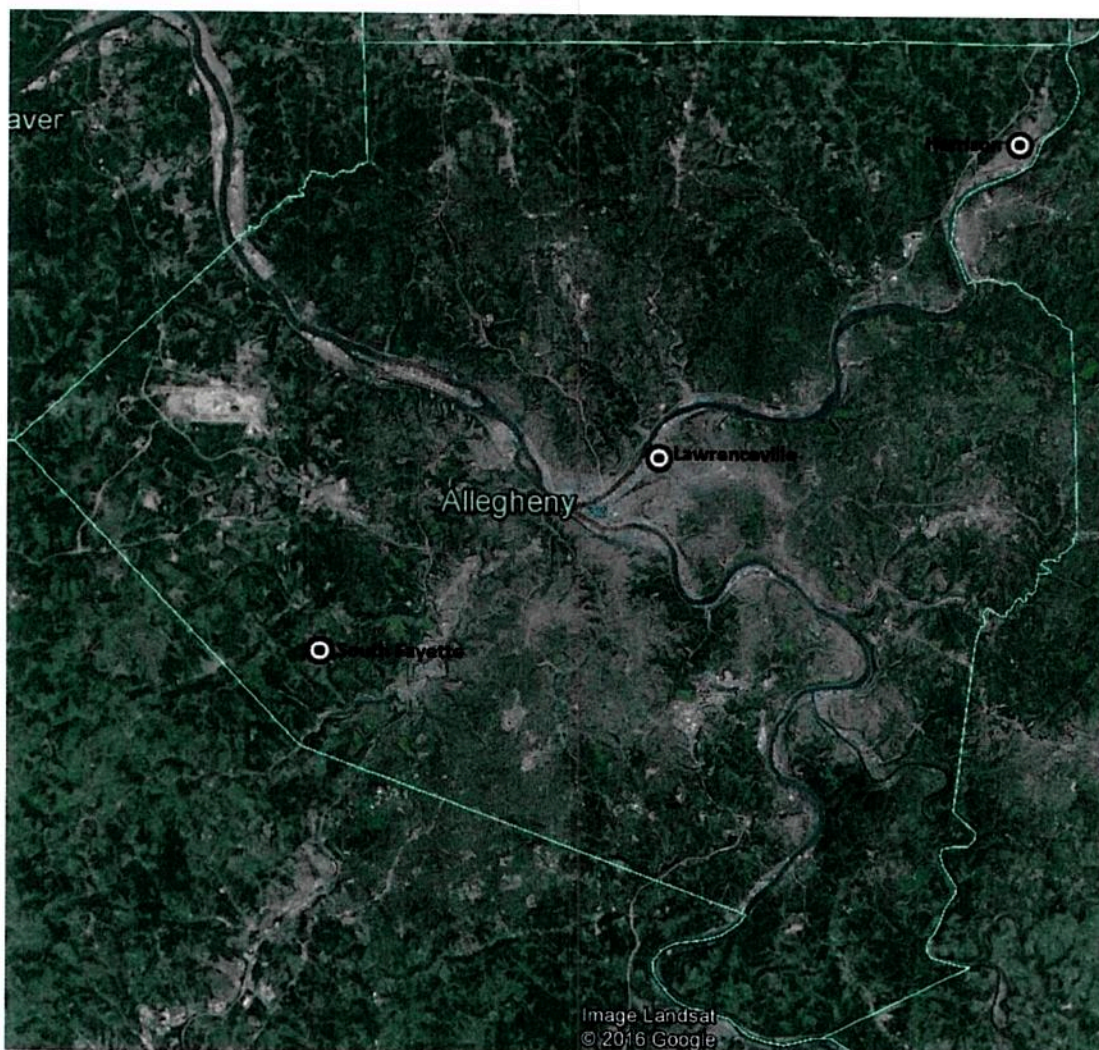


(5.4) Ozone Monitoring Requirements

Ozone (O₃) monitoring requirements are determined by the MSA population and ozone design value, as specified in Table D-2 of 40 CFR Part 58 Appendix D.

- Based on the population of the Pittsburgh MSA and the fact that the latest ozone design value is greater than 85% of the ozone NAAQS, ACHD is required to operate two ozone monitors. ACHD satisfies this requirement by operating three ozone monitors.
- Each NCORE site must operate an ozone monitor. ACHD satisfies this requirement by operating an ozone monitor at the Lawrenceville NCORE site.
- Within an ozone network, at least one ozone site for each MSA must be designed to record the maximum concentration for that metropolitan area. The maximum concentration monitor site should be selected in a direction from the city that is most likely to observe the highest ozone concentrations, more specifically, downwind during periods of photochemical activity. The Harrison monitor is assigned this designation.

(Figure 5.4) 2017 Ozone Monitors

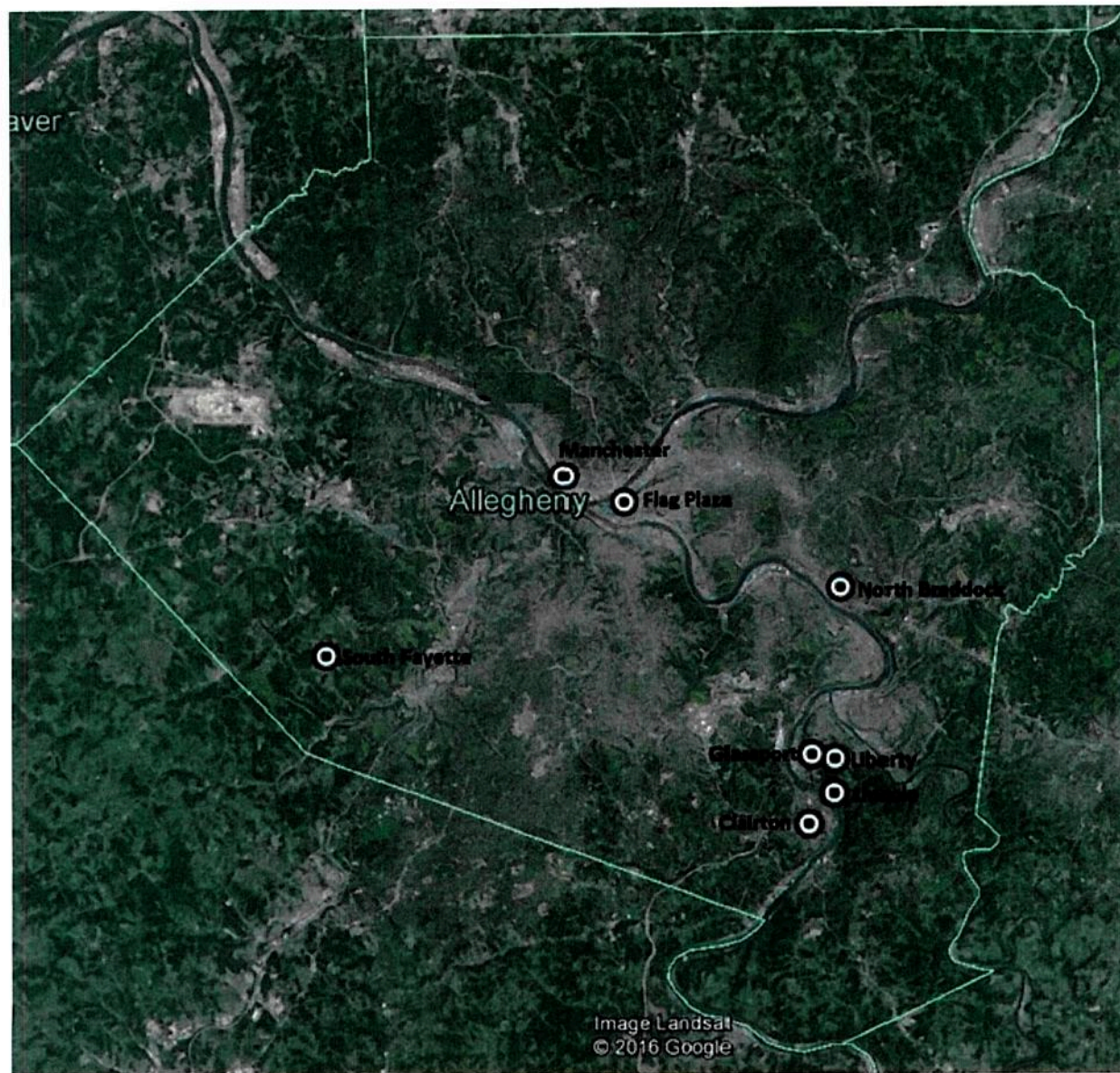


(5.5) PM₁₀ Monitoring Requirements

The number of required PM₁₀ monitors in each MSA is determined by the MSA population and design value, as specified in Table D-4 of Appendix D to 40 CFR Part 58.

- The Pittsburgh MSA has ambient PM₁₀ concentrations well below 80% of the PM₁₀ NAAQS. Table D-4 indicates that 2 to 4 sites must monitor for PM₁₀. ACHD exceeds this requirement with 8 sites that monitor PM₁₀.
- A minimum of 15%, or at least one filter based, reference method PM₁₀ monitor must be collocated as specified in 40 CFR Part 58 Appendix A 3.3.1. The Liberty site meets this requirement.

(Figure 5.5) 2017 PM₁₀ Monitors



(5.6) PM_{2.5} Monitoring Requirements

The number of required PM_{2.5} monitors in each MSA is determined by the MSA population and design value, as specified in Table D-5 of Appendix D to 40 CFR Part 58.

- Pittsburgh MSA PM_{2.5} 24 hour and annual design values are > 85% of the NAAQS, requiring a minimum of 3 PM_{2.5} monitor sites. ACHD exceeds this requirement with 9 sites monitoring PM_{2.5}.
- A minimum of 15%, or at least one, of the PM_{2.5} monitors must be collocated as specified in 40 CFR Part 58 Appendix A 3.3.1. ACHD exceeds this requirement by having collocated monitors at Liberty and Lawrenceville sites.
- At least one site that features a PM_{2.5} FEM monitor as a primary monitor must also operate a collocated PM_{2.5} FRM sampler (40 CFR Part 58 Appendix A). This requirement is met at the Avalon site (see section 2.2.1).
- At least one half of the minimum number of sites per MSA must operate continuous PM_{2.5} monitors, requiring ACHD to operate 2 continuous PM_{2.5} monitors. ACHD operates 4 continuous PM_{2.5} monitors (Liberty, Lawrenceville, Avalon and Parkway East).
- For MSA's above 1,000,000 people, at least one PM_{2.5} monitor is to be located at a near road site. ACHD satisfies this requirement at the Parkway East near road site.
- Each monitoring agency shall continue to conduct chemical speciation monitoring and analyses at sites designated to be part of the PM_{2.5} Speciation Trends Network (STN). ACHD continues to conduct PM_{2.5} speciation at Liberty and Lawrenceville sites.
- Each NCORE site must monitor PM_{2.5}. ACHD satisfies this requirement at the Lawrenceville NCORE site.
- The required monitoring sites must be located to represent area-wide air quality. These will typically be either neighborhood or urban scale, although micro or middle scale may be appropriate in some urban areas. At least one monitoring site must be neighborhood scale or greater in an area of expected maximum concentration and one site must be sited in an area of poor air quality. At least one PM_{2.5} site must monitor for regional background and at least one PM_{2.5} site must monitor for regional transport. Table 5 shows that ACHD satisfies these requirements.

(Table 5) 2017 PM_{2.5} Monitor Scales and Objectives

Site Name	Measurement Scale	Monitor Objective
Lawrenceville	Urban	Population Exposure
Liberty	Neighborhood	Population Exposure, Highest Concentration
North Braddock	Neighborhood	Population Exposure
Harrison Township	Neighborhood	Population Exposure
South Fayette	Neighborhood	Population Exposure, Regional Transport, Upwind Background
Clairton	Neighborhood	Population Exposure, Welfare concerns
Avalon	Neighborhood	Population Exposure
North Park	Neighborhood	Population Exposure, Regional Background
Parkway East Near Road	Microscale	Population Exposure, Source Oriented

(Figure 5.6) 2017 PM_{2.5} Monitors

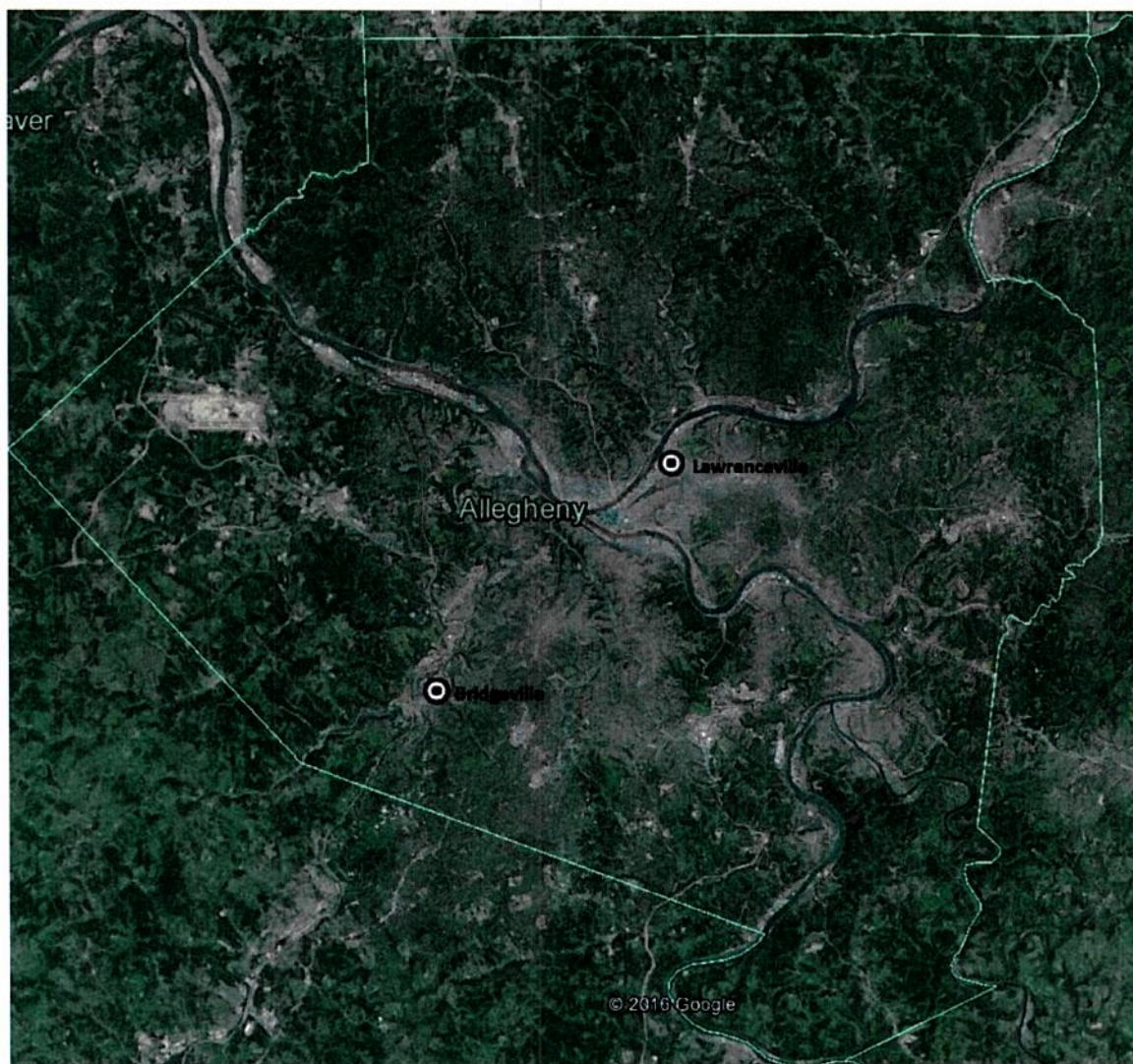


(5.7) Lead Monitoring Requirements

The latest revision to the lead (Pb) NAAQS was finalized on October 15, 2008, lowering the primary and secondary standards from 1.5 $\mu\text{g}/\text{m}^3$ to 0.15 $\mu\text{g}/\text{m}^3$. Revisions to the lead monitoring regulations were finalized on December 27, 2010. Current applicable network requirements are as follows:

- One source-oriented SLAMS site located to measure the maximum Pb concentration resulting from each non-airport Pb source which emits 0.50 or more tons per year. ACHD previously satisfied this requirement at the Bridgeville monitoring site. As discussed in section 3.1, the major lead source in Bridgeville is no longer operational.
- A minimum of 15%, or at least one Pb monitor must be collocated as specified in 40 CFR Part 58 Appendix A 3.3.1. The Lawrenceville site meets this requirement.

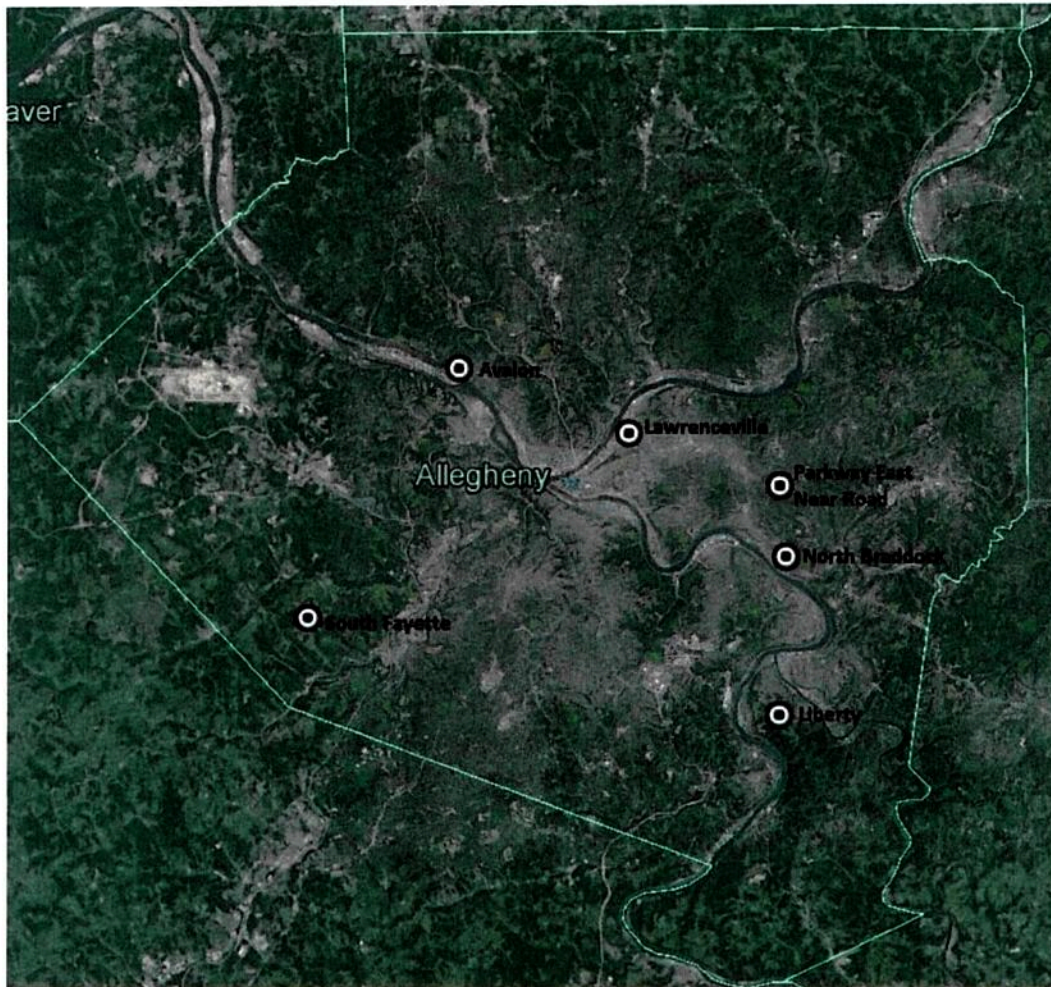
(Figure 5.7) 2017 Lead Monitors



(5.8) Meteorological Parameter Monitoring Requirements

Wind speed, wind direction, barometric pressure and ambient temperature are measured at Parkway East Near Road and Lawrenceville NCORE as required parameters of those sites. Meteorological parameters are also measured at 4 additional sites in the monitoring network.

(Figure 5.8) 2017 Meteorological Sensors



Site Name	AQS #	Wind Speed / Direction 61101	Ambient Temperature 62101	Relative Humidity 62201
Lawrenceville	42-003-0008	X	X	X
Liberty	42-003-0064	X	X	
South Fayette	42-003-0067	X	X	
Avalon	42-003-0002	X	X	
North Braddock	42-003-1301	X	X	
Parkway East	42-003-1376	X	X	X

(5.9) NCORE Multipollutant Monitoring Site Requirements

NCORE is a multi-pollutant network that integrates several advanced measurement systems for particles, pollutant gases and meteorology. Most NCORE stations have been operating since the formal start of the network on January 1, 2011. The Lawrenceville site complies with all NCORE requirements and is the designated NCORE site for the Pittsburgh MSA. Section 8.1 of this ANP describes the Lawrenceville monitoring site in detail. NCORE required parameters are as follows:

- **PM_{2.5} FRM Mass** – 24 hour average at least every 3 days
- **PM_{2.5} Continuous Mass** - 1 hour reporting interval; FEM or pre-FEM monitor
- **PM_{2.5} Speciation** - Organic and elemental carbon, major ions and trace metals (24 hour average; every 3rd day); IMPROVE or CSN
- **PM(10-2.5) Mass** – Filter based or continuous
- **Ozone** – All gases require continuous monitors
- **Trace Level Gases** – SO₂, CO, NO_y (total reactive nitrogen), NO
- **Surface Meteorology** - Wind speed and direction (reported as "Resultant"), temperature, relative humidity

(5.10) Near Road Monitoring Site Requirements

2010 revision of the NO₂ NAAQS state and local air monitoring agencies are required to install near-road NO₂ monitoring stations at locations where peak hourly NO₂ concentrations are expected to occur within the near-road environment in larger urban areas. The revisions of the CO NAAQS (2011) and the PM_{2.5} NAAQS (2012) added additional monitoring requirements for near road monitoring stations. The Parkway East site complies with all current near road monitoring requirements and is the designated near road site for the Pittsburgh MSA. Section 8.14 describes the Parkway East site in detail. Near road monitoring site requirements are as follows:

- **NO₂** - Continuous trace level
- **CO** - Continuous trace level
- **PM_{2.5}** – Mass, FRM 24 hour average at least every three days or FEM continuous
- **Surface Meteorology** - Wind speed and direction (reported as "Resultant"), temperature, relative humidity

(6) GLOSSARY OF TERMS AND ABBREVIATIONS

NAAQS	National Ambient Air Quality Standards. These standards apply only to the six criteria pollutants
Criteria Pollutants	Air pollutants considered harmful to public health and the environment (carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, lead, particulate matter PM ₁₀ , PM _{2.5})
FRM	Federal Reference Method. Primary measurement methods designated by the USEPA for measurement of criteria pollutants and determination of compliance with NAAQS.
FEM	Federal Equivalent Method. Secondary methods approved by the USEPA for measurement of criteria pollutants and determination of compliance with NAAQS.
Hourly	Refers to continuous operating monitors which produce hourly averaged telemetered data.
TSP	Total Suspended Particles. TSP samplers are filter based, operate at a high flow rate and have no particle sizing device. Used as part of the FRM lead monitoring method.
PM₁₀	All suspended particles equal to or smaller than 10 microns.
PM_{2.5}	All suspended particles equal to or smaller than 2.5 microns. Also frequently referred to as fine particulates.
PM_(coarse)	All suspended particulates smaller than 10 microns but larger than 2.5 microns, also often referred to as PM _{10-2.5} . EPA has not assigned a NAAQS to this parameter as of the date of this document.
Lead (Pb)	Lead Monitor. Data is obtained by County laboratory analysis of TSP filters. This analysis measures lead that is trapped in suspended particles and is performed according to the federal reference method for lead monitoring.
Speciation	PM _{2.5} speciation monitor. Multiple filter based samples which yield a breakdown of PM _{2.5} composition. Analytes include heavy metals, sulfates, nitrates and various species of carbon. Analysis is conducted by the US EPA national contract lab.
Aethalometer	A continuous monitor designed to measure diesel mobile emissions by quantifying black carbon particles. This is a research instrument and does not determine compliance with NAAQS.
Benzene	C ₆ H ₆ . A six carbon aromatic ring known to be a carcinogen. Emitted by mobile and industrial sources in Allegheny County.
SUMMA	Samples collected for 24 hours every six days using an evacuated and purified stainless steel canister. Analysis by EPA method TO-15 for multiple volatile organic compounds is performed by Maryland Department of Environmental Protection.
Carbonyl	Samples collected for 24 hours every six days. Sample media is a DNPH cartridge. Analysis by EPA method TO-11a is performed by the Philadelphia Health Department for formaldehyde and other related carbonyl compounds.
PAMS	Photochemical Assessment Monitoring Stations

GLOSSARY OF TERMS AND ABBREVIATIONS (continued)

VSCC	Very Sharp Cut Cyclone. An alternate particulate sizing device approved by the EPA for use with PM _{2.5} FRM and FEM monitors. The VSCC is commonly used to accomplish the final PM _{2.5} size cut in continuous particulate monitors. The VSCC features longer service intervals and does not require the use of oil.
CO	Carbon Monoxide. Measured using a continuous automated analyzer.
SO₂	Sulfur Dioxide. Measured using a continuous automated analyzer.
NO_x	Oxides of nitrogen, including nitric oxide and nitrogen dioxide. Measured using a continuous automated analyzer.
NO_y	Total reactive nitrogen. A collective name for oxidized forms of nitrogen in the atmosphere such as nitric oxide (NO), nitrogen dioxide (NO ₂), nitric acid (HNO ₃), and numerous short lived and reactive organic nitrates, but not NH ₃ . These compounds play important roles in atmospheric ozone and ultra-fine particle formation.
O₃	Ozone. Measured using a continuous automated analyzer.
NCORE	National Core Monitoring Network, consisting of multi-pollutant ambient air monitoring sites, and specializing in PM _{2.5} and associated precursor gases. These sites will be known as "CORE" sites starting 2019.
Near Road	Monitoring site designed to measure peak exposure to roadway emissions. Required monitoring parameters are NO ₂ , CO and PM _{2.5} . Installation of near road monitoring sites were required by revisions to the NO ₂ NAAQS during 2010.
SPM	Special Purpose Monitor. Monitor not used for comparison against NAAQS. SPM's may be employed for short term studies. Monitors not approved as EPA reference or equivalent methods must be operated as SPM monitors.
TEOM	(Tapered Element Oscillating Microbalance) this technology is used by the Thermo-Scientific model 1400ab continuous particulate monitor, which has FEM designation for PM ₁₀ measurement. This monitor is also used as a PM _{2.5} non-regulatory monitor by adding a VSCC.
BAM	(Beta Attenuation Monitor) this technology is used by the Met One BAM1020 and the Thermo Scientific 5014i continuous particulate monitors, both which have FEM designation for PM ₁₀ measurement, and for PM _{2.5} measurement with the addition of a VSCC particle sizing device.
Sonic Anemometer	A method to measure wind speed and wind direction that uses ultrasonic sound waves to precisely measure wind speed and wind direction. This method features much better accuracy, sensitivity and longevity as compared to the traditional "cup and vane" wind sensing method. The sonic anemometers utilized by the department are heated to avoid ice accumulation on the sensors.
AADT	Annual Average Daily Traffic count. This is the unit of measure used in this report to indicate vehicular traffic density as received from Penn Dot (Pennsylvania Department of Transportation), and represents the daily two-way traffic count averaged over a calendar year for the indicated roadway segment. The year that the data was collected is included for each count.

(7) AIR MONITORING NETWORK DESCRIPTION INTRODUCTION

(7.1) Site Information

The following air monitoring network description discusses each monitoring site in detail. The first information block is labeled with the site name. Inside of the block is listed site specific information as follows:

- **Street Address**
- **AQS #** - unique 9-digit number used to identify the site in the national data base.
- **Municipality** where site is located.
- **MSA**- Metropolitan Statistical Area.
- **Latitude (N), Longitude (W)** – Site coordinates, given in WGS84 datum coordinates.
- **Comments**- Specific site information of importance.

(7.2) Individual Monitor Information

The next blocks are designed to list details of each monitor at the site. Each monitor present at the time of the review is assigned its own block. The following information is listed:

Sensor Type – The name of the pollutant measured by the sampler.

Sensor Network Designation – The name of the designated network:

- SLAMS - State or Local Ambient Air Monitor that has EPA reference or equivalent method designation
- OTHER – Monitor that does not have EPA designated reference or equivalent status

Sensor Purpose Description– The purpose of the sensor:

- Population Exposure, such as the Air Quality Index
- Regulatory Compliance with Federal or State regulation
- Research/Scientific Monitoring
- Specific Location Characterization
- Quality Assurance (Collocated)

Sample Frequency – Specifies how often a sample is taken.

- Continuous (also referred to as “Hourly”) - operates 24/7; applies predominately to gaseous analyzers, although some particulate samplers (TEOM, BAM, Aethalometer) operate continuously.
- Daily – a discrete sample is taken every day; applies to manual method particulate samplers.
- Every Third Day - Manual method particulate samplers that run every third day.
- Every Sixth Day – Manual method particulate or toxics samplers that run every sixth day.

Appendix A QA Assessment – A “YES” indicates the sensor is maintained in accordance with the Quality Assurance (QA) requirements specified in 40 CFR Part 58, Appendix A.

Monitor Start Date – Specifies the start date of monitoring classified by the current AQS parameter code. Note that AQS method codes may change after this date, usually due to a change of manufacturer or monitor model that share AQS parameter codes.

Appendix C Monitoring Classification – Each ambient air monitor is classified using the EPA “List of Designated Reference and Equivalent Methods”

- Reference Method – a method of sampling that is specified in 40CFR53.
- Equivalent Method – a method that is designated as equivalent to the reference method, in accordance with 40CFR53.
- Automated – after sampling, the analysis results are available immediately.
- Manual - after sampling, a separate analysis at a laboratory is necessary.
- N/A – appears where there is no reference or equivalent method.

Appendix C Monitoring Method – Each ambient air monitor is classified by a specific method number. For detailed descriptions of each method number listed in this review, please follow the link below to access the EPA’s Technology Transfer Network (file size 492 kb).

<http://www.epa.gov/ttn/amtic/files/ambient/criteria/reference-equivalent-methods-list.pdf>

Monitoring Method Description – Table 7 provides details about each type of sampler and analyzer utilized in the air monitoring network

Probe Height - Distance from ground level that ambient air is sampled. 40 CFR Part 58 Appendix E lists acceptable probe heights for individual measurement parameters and spatial scales.

Residence Time - The amount of time that ambient air remains in contact with a probe line or manifold, considering probe length and diameter and monitor flow rate. Residence time is applicable to reactive gas monitors that use probe lines or manifolds to deliver ambient air to the monitor inlet. Section 7.2.1 of the QA Handbook Volume II recommends a probe residence time of ten seconds or less as optimal and over 20 seconds as unacceptable due to sample concentration loss at higher residence times.

Appendix D Design Criteria – Appendix D requires a certain number of samplers per geographic area. A “YES” indicates that the number of monitors in that area meets or exceeds the requirement of 40 CFR Part 58 Appendix D.

Appendix D Scale – The specific “spatial scales of representation” describes the physical dimensions of the air parcel around the monitoring station throughout which actual pollutant concentrations are reasonably similar.

- Microscale - Areas with dimensions up to about 100 meters
- Middle scale - Areas with dimensions from 100 meters to 0.5 kilometers
- Neighborhood - Areas with dimensions from 0.5 to 4.0 kilometers, and uniform land use
- Urban scale - Areas with dimensions from 4 to 50 kilometers
- Regional - Areas with dimensions ranging from tens to hundreds of kilometers and usually a rural area of reasonably homogeneous geography without large sources
- National and Global Scales - Measurement scales that represent concentrations characterizing the nation and the globe as a whole.

Appendix D Objective – Describes the purpose/objective for monitoring at a site.

- Extreme Downwind
- General/Background Concentration
- Highest Concentration
- Maximum Ozone Concentration
- Maximum Precursor Emissions
- Population Exposure
- Regional Transport
- Source Oriented
- Quality Assurance
- Welfare Related

Appendix E Siting Criteria – Describes certain criteria applicable to ambient air quality sampling probes and monitoring paths, such as distances from trees, obstructions, traffic lanes, etc. A “YES” indicates that the sensor at the given site meets or exceeds the requirements of 40 CFR Part 58 Appendix E.

(Table 7) Monitoring Methods

Parameter	Mfg	Model #	Parameter Code	Method Code	Description
PM _{2.5} FRM	R&P	2025	88101	145	Low Volume Sampler (filter) VSCC, very sharp cut cyclone
PM _{2.5} FEM	Thermo	5014i	88101	183	Beta Attenuation Instrumental
	Met One	1020	88101	170	Beta Attenuation Instrumental
PM ₁₀ FRM	Tisch	TE-6070	81102	141	High Volume Sampler (filter)
PM ₁₀ FEM	R&P	1400	81102	79	Gravimetric Instrumental (TEOM)
	Met One	1020	81102	122	Beta Attenuation Instrumental
PM _{2.5} Speciation	Met One SASS	SASS	multiple	812	Trace metals, Sulfate, Nitrate
	URG	3000N	multiple	812	Organic/Inorganic Carbon
PM coarse	Met One	1020 (pair)	86101	185	Beta Attenuation Instrumental
Lead	Tisch	TE-5170 TSP	14129	193	ICP/MS, Inductively Coupled Plasma Mass Spectrometry
Carbon Monoxide	TAPI	300A/E	42101	93	Gas Filter Correlation
Carbon Monoxide (trace)	TAPI	300 EU	42101	593	Gas Filter Correlation
Nitrogen Dioxide	Echotech	ML9841	42602	90	Chemiluminescence
Nitrogen Dioxide	TAPI	200A/E	42602	99	Chemiluminescence
Nitrogen Dioxide (trace)	TAPI	200EU	42602	599	Chemiluminescence
Reactive Oxides of Nitrogen (NOy)	TAPI	200EU/501	42600	699	Chemiluminescence
Sulfur Dioxide	Ecotech	9850	42401	92	Ultra Violet Fluorescent
	Thermo	43i	42401	60	Ultra Violet Fluorescent
Sulfur Dioxide (trace)	TAPI	100EU	42401	600	Pulsed Fluorescent
Ozone	Ecotech	10	44201	187	Ultra Violet Absorption
	Thermo	49	44201	47	Ultra Violet Absorption
Black Carbon	TAPI	633	84313	894	Aethalometer Instrumental
Air Toxics (VOC)	na	na	multiple	150	6 liter SS canister / TO-15 lab analysis
AIR Toxics (Carbonyl)	na	na	multiple	102	DNPH cartridge / TO-11 lab analysis
Wind Speed	Met One	50.5	61101	61	Sonic Anemometer
Wind Direction	Met One	50.5	61102	61	Sonic Anemometer
Temperature	Met One	083D	62101	61	Temp/RH Probe
	Climatronics	100093	62101	40	Temperature Probe
Relative Humidity	Met One	083D	62201	61	Temp/RH Probe

(8) Detailed Air Monitoring Site Descriptions**(8.1) Lawrenceville**

Address	Allegheny County Health Department 301 39 th Street Pittsburgh, PA 15201		
AQS#	42-003-0008	MSA	Pittsburgh
Latitude (N)	40.465420	Longitude (W)	-79.960757
Comments	This is a population-based, community oriented monitoring site that is located in a suburban area downwind of Central Business District. The Lawrenceville monitoring site was selected as a PM _{2.5} National Trends Site, later as an NCORE site and as the candidate for expansion to a PAMS site in 2019. The most significant local pollution is generated from mobile sources, but light industry scattered throughout the area is also a contributing factor. Lawrenceville is a core PM _{2.5} site that is used to determine compliance with national standards.		

Sensor Type	Ozone	Appendix C Method Code	187
Network Designation	SLAMS	Probe Height Residence Time	12 Meters 14.8 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/1978	Appendix E Siting Criteria	Yes

Sensor Type	PM_{10-2.5} (coarse)	Appendix C Method Code	185
Network Designation	Other / (NCORE)	Probe Height	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/1/2011	Appendix E Siting Criteria	Yes

Lawrenceville, continued

Sensor Type	PM_{2.5}	Appendix C Method Code	170
Network Designation	SLAMS	Probe Height	12 Meters
Purpose	Regulatory Compliance / AQI Reporting	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	08/07/2015	Appendix E Siting Criteria	Yes

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	12 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Daily	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	02/23/1999	Appendix E Siting Criteria	Yes

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	12 Meters
Purpose	QA/Co-located Monitor	Appendix D Design Criteria	Yes
Sample Frequency	Every six days	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure / Quality Assurance
Monitor Start Date	1/1/2005	Appendix E Siting Criteria	Yes

Sensor Type	PM_{2.5} Speciation	Appendix C Method Code	Multiple
Network Designation	Other (CSN)	Probe Height (m)	12 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Not Assigned
Appendix A QA Assessment	Yes	Appendix D Objectives	Unknown
Monitor Start Date	6/30/2001	Appendix E Siting Criteria	Yes

Lawrenceville, continued

Sensor Type	Carbon Monoxide	Appendix C Method Code	593
Network Designation	SLAMS	Probe Height Residence Time	12 Meters 8.9 Seconds
Purpose	Population Exposure	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/1/2010	Appendix E Siting Criteria	Yes

Sensor Type	Sulfur Dioxide	Appendix C Method Code	600
Network Designation	SLAMS	Probe Height Residence Time	12 Meters 13.5 Seconds
Purpose	Population Exposure	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/1/2010	Appendix E Siting Criteria	Yes

Sensor Type	Total Oxides of Nitrogen (NO_y)	Appendix C Method Code	699
Network Designation	Other (NCORE)	Probe Height Residence Time	12 Meters 14.7 Seconds
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/2/2010	Appendix E Siting Criteria	Yes

Sensor Type	Lead (Pb)	Appendix C Method Code	193
Network Designation	SLAMS	Probe Height	12 Meters
Purpose	Population Exposure	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/21/2011	Appendix E Siting Criteria	Yes

Lawrenceville, continued

Sensor Type	Lead (Pb)	Appendix C Method Code	193
Network Designation	SLAMS	Probe Height	12 Meters
Purpose	QA/Co-located Monitor	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure / Quality Assurance
Monitor Start Date	4/21/2011	Appendix E Siting Criteria	Yes

(8.1.1) Lawrenceville Area Information

Street Name	Traffic Count (AADT)
39th Street (20 m)	Unavailable
Penn Avenue (86 m)	7,785 (PennDot 2015)
Butler Street (343 m)	7371 (PennDot 2014)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South	Wall	1	2 to 3 m
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Flat
East		Flat
South		Flat
West		Flat

(Figure 8.1) Lawrenceville Location Map

(8.2) Liberty

Address	South Allegheny High School 2743 Washington Blvd McKeesport, PA 15133		
AQS#	42-003-0064	MSA	Pittsburgh
Latitude (N)	40.323768	Longitude (W)	-79.868062
Comments	<p>This site is in a suburban area about 3 km downwind of the US Steel Clairton Coke Works, which is a major source of particulate matter, precursor gases, sulfur dioxide and air toxics. The area around this monitoring site has a long history of higher than average levels of PM_{2.5}, PM₁₀ and sulfur dioxide. Significant ambient levels of benzene have also been measured and documented at this site. Liberty is a core PM_{2.5} site that is used to determine compliance with national standards.</p> <p>At the request of US Steel, telemetry devices have been installed on the PM₁₀, PM_{2.5}, and SO₂ monitors that transmit continuous readings via radio signals to a location within the US Steel facility. Other transmitters are also in use at the Lincoln PM₁₀ monitor (site # 7.3), Glassport PM₁₀ monitor (site # 7.4) and North Braddock SO₂ monitor and sonic anemometer (site # 7.5). This real-time data allows US Steel to minimize fugitive emissions and to adjust production levels to keep particulate levels and gaseous emissions within allowable ambient levels in downwind communities.</p>		

Sensor Type	PM_{2.5}	Appendix C Method Code	716
Network Designation	Other (AQI)	Probe Height	8 Meters
Purpose	Population Exposure	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood, Highest Concentration
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	11/19/1999	Appendix E Siting Criteria	Yes

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Daily	Appendix D Scale	Neighborhood, Highest Concentration
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Highest Concentration
Monitor Start Date	1/23/1999	Appendix E Siting Criteria	Yes

Liberty, continued

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	QA/Co-located Monitor	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood, Highest Concentration
Appendix A QA Assessment	Yes	Appendix D Objectives	Quality Assurance
Monitor Start Date	1/1/2005	Appendix E Siting Criteria	Yes

Sensor Type	PM₁₀	Appendix C Method Code	79
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/1992	Appendix E Siting Criteria	Yes

Sensor Type	PM₁₀	Appendix C Method Code	141
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/2005	Appendix E Siting Criteria	Yes

Sensor Type	PM₁₀	Appendix C Method Code	141
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	QA/Co-located Monitor	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure / Quality Assurance
Monitor Start Date	4/21/1987	Appendix E Siting Criteria	Yes

Liberty, Continued

Sensor Type	PM_{2.5} Speciation	Appendix C Method Code	Multiple
Network Designation	Other (CSN)	Probe Height	8 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Unassigned
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Source Oriented
Monitor Start Date	10/6/2003	Appendix E Siting Criteria	Yes

Sensor Type	Sulfur Dioxide	Appendix C Method Code	600
Network Designation	SLAMS	Probe Height Residence Time	8 Meters 11.5 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/1969	Appendix E Siting Criteria	Yes

(8.2.1) Liberty Area Information

Street Name	Traffic Count (AADT)
Washington Blvd. (283 m)	2080 (PennDot 2013)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Liberty Area Information, continued

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	Valley	Rough
East		Rolling
South	Valley	Rolling
West		Rolling

(Figure 8.2) Liberty Location Map

(8.3) Lincoln

Address	Bellbridge Road Elizabeth, PA 15037		
AQS#	42-003-7004	MSA	Pittsburgh
Latitude (N)	40.308219	Longitude (W)	- 79.869134
Comments	Located at an elevated location, directly across the Monongahela River and downwind from the US Steel Clairton Coke Works. Although this area is not populated, it is upwind of populated areas and it is modeled to be the maximum impact area of air emissions from the plant.		

Sensor Type	PM₁₀	Appendix C Method Code	79
Network Designation	SLAMS	Probe Height	5 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Middle
Appendix A QA Assessment	Yes	Appendix D Objectives	Highest Concentration
Monitor Start Date	1/15/1993	Appendix E Siting Criteria	Yes

(8.3.1) Lincoln Area Information

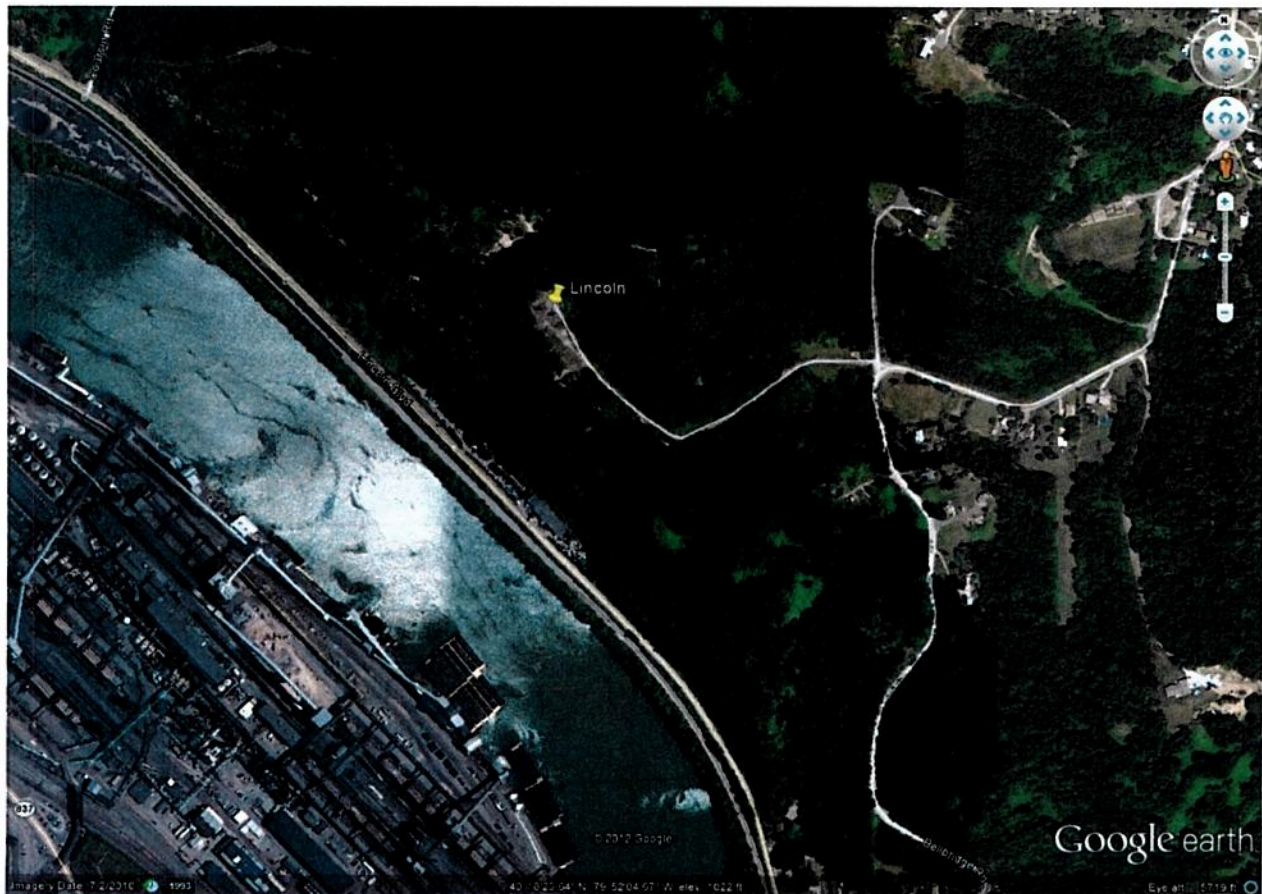
Street Name	Traffic Count (AADT)
Lincoln Blvd. (238 m)	6931 (PennDot 2014)
Bellbridge Rd. (428 m)	2203 (PennDot 2014)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Industrial
West	Industrial

Lincoln Area Information, continued

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	Valley	Rolling
East	Valley	Rolling
South	Hills	Rough
West	River	Rough

(Figure 8.3) Lincoln Location Map

(8.4) Glassport

Address	Water Tower on High Street Glassport, PA 15045		
AQS#	42-003-3006	MSA	Pittsburgh
Latitude (N)	40.326008	Longitude (W)	-79.881703
Comments	Located in a residential area, this site is population oriented, and is impacted by the US Steel Clairton Coke Works, the Irvin Works and other sources in the Monongahela river valley. Glassport High Street is the site of the County's last documented exceedance of the federal 24-hour PM ₁₀ standard of 150 ug/m ³ (October of 1997).		

Sensor Type	PM ₁₀	Appendix C Method Code	79
Network Designation	SLAMS	Probe Height	2 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/6/1995	Appendix E Siting Criteria	Yes

(8.4.1) Glassport Area Information

Street Name	Traffic Count (AADT)
High Street (8m)	Unavailable
Scenic Street (53m)	Unavailable
Washington Blvd (140m)	2080 (PennDot 2013)
Pacific Ave. (202m)	4450 (PennDot 2012)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Residential

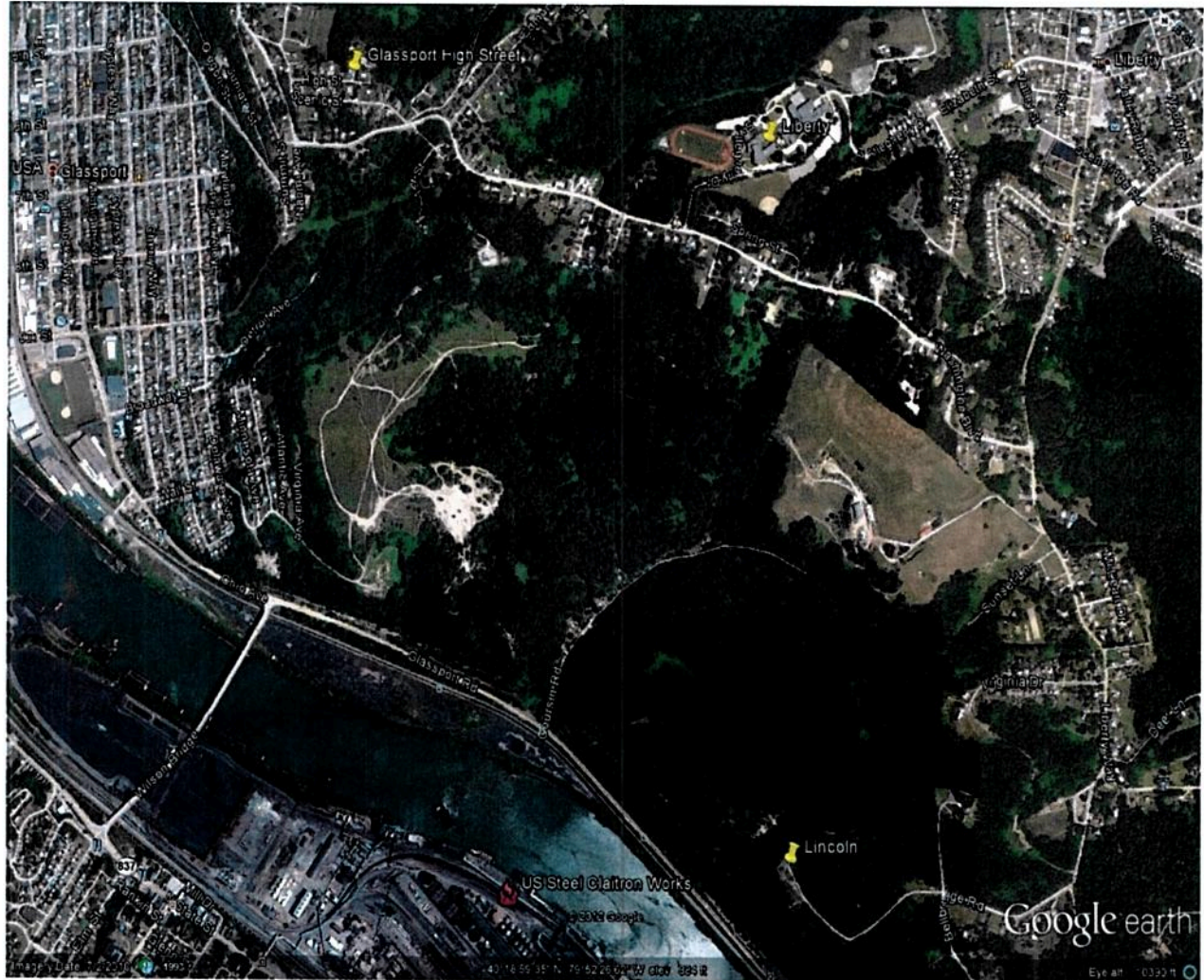
Glassport Area Information, continued

Direction	Obstructions	Height (m)	Distance (m)
North	Water Tower	25	9
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Flat
East		Flat
South		Flat
West		Flat

(Figure 8.4) Glassport Location Map

(Figure 8.4.1) Liberty, Lincoln and Glassport Location Map



(8.5) North Braddock

Address	North Braddock Borough Building 600 Anderson Street Braddock, Pa 15104		
AQS#	42-003-1301	MSA	Pittsburgh
Latitude (N)	40.402328	Longitude (W)	-79.860973
Comments	This suburban site is population oriented. The area around this site is impacted by the US Steel Edgar Thomson Works, which is a large steel production facility, and is located about 1.5 km away from the monitoring site. North Braddock is a core PM _{2.5} site that is used to determine compliance with national standards.		

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	7 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/30/1999	Appendix E Siting Criteria	Yes

Sensor Type	PM₁₀	Appendix C Method Code	122
Network Designation	SLAMS	Probe Height	7 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/2011	Appendix E Siting Criteria	Yes

Sensor Type	Sulfur Dioxide	Appendix C Method Code	92
Network Designation	SLAMS	Probe Height Residence Time	7 Meters 14.4 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Highest Concentration
Monitor Start Date	1/1/2014	Appendix E Siting Criteria	Yes

(8.5.1) North Braddock Area Information

Street Name	Traffic Count (AADT)
Bell Avenue (13 m)	2882 (PennDot 2012)
Anderson St. (40 m)	Unavailable
Braddock Ave. (370 m)	6349 (PennDot 2015)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential, Industry
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	Hills	Rolling
East	Hills	Rolling
South	River	Rolling
West		Rolling

(Figure 8.5) North Braddock Location Map



(8.6) Harrison

Address	Highlands Senior High School 1500 Pacific Avenue Natrona Heights, PA 15065		
AQS#	42-003-1008	MSA	Pittsburgh
Latitude (N)	40.617488	Longitude (W)	-79.727664
Comments	This suburban site is population-based and community oriented. Harrison is a core PM _{2.5} site that is used to determine compliance with national standards. Harrison is also an important ozone monitoring site that is positioned downwind of the Pittsburgh Central Business District.		

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	2/13/1999	Appendix E Siting Criteria	Yes

Sensor Type	Ozone	Appendix C Method Code	47
Network Designation	SLAMS	Probe Height Residence Time	10 Meters 5.1 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Highest Concentration
Monitor Start Date	2/12/2014	Appendix E Siting Criteria	No

Sensor Type	Ozone	Appendix C Method Code	47
Network Designation	SLAMS	Probe Height Residence Time	10 Meters 5.1 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Urban
Appendix A QA Assessment	Yes	Appendix D Objectives	Quality Assurance / Collocated
Monitor Start Date	2/16/2017	Appendix E Siting Criteria	No

Harrison, continued

Sensor Type	Oxides of Nitrogen	Appendix C Method Code	90
Network Designation	SLAMS	Probe Height Residence Time	10 Meters 14.7 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	2/12/2014	Appendix E Siting Criteria	No

(8.6.1) Harrison Area Information

Street Name / Distance	Traffic Count (AADT)
Idaho Ave (31m)	Unavailable
Pacific Ave (103m)	Unavailable
Freeport Road (326 m)	8018 (PennDot 2008)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Industrial

Direction	Obstructions	Height (m)	Distance (m)
North	Wall	3	20
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Flat
East		Rough
South	Valley	Rough
West	Valley	Rolling

(Figure 8.6) Harrison Location Map



(8.7) South Fayette

Address	South Fayette Elementary School 3640 Old Oakdale Road McDonald, PA 15057		
AQS#	42-003-0067	MSA	Pittsburgh
Latitude (N)	40.375644	Longitude (W)	-80.169943
Comments	This suburban site is population-based and is the regional transport site for ozone and PM _{2.5} . Location in the western portion of the county makes this an excellent site to access pollution levels entering the County on prevailing winds. South Fayette is a core PM _{2.5} site that is used to determine compliance with national standards.		

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Regional Transport, Upwind Background
Monitor Start Date	1/1/1995	Appendix E Siting Criteria	Yes

Sensor Type	PM₁₀	Appendix C Method Code	141
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	General/Background
Monitor Start Date	3/27/1987	Appendix E Siting Criteria	Yes

Sensor Type	Sulfur Dioxide	Appendix C Method Code	92
Network Designation	SLAMS	Probe Height Residence Time	8 Meters 10.2 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	General/Background
Monitor Start Date	7/1/1980	Appendix E Siting Criteria	Yes

South Fayette, continued

Sensor Type	Ozone	Appendix C Method Code	187
Network Designation	SLAMS	Probe Height Residence Time	8 Meters 10.2 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Regional
Appendix A QA Assessment	Yes	Appendix D Objectives	General/Background, Regional Transport
Monitor Start Date	1/1/1980	Appendix E Siting Criteria	Yes

(8.7.1) South Fayette Area Information

Street Name / Distance	Traffic Count (AADT)
Old Oakdale Rd. (142m)	Unavailable
Cannongate Dr. (377m)	Unavailable
Battle Ridge Rd. (554m)	5194 (PennDot 2014)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Agriculture
West	Agriculture

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Rolling
East		Rolling
South		Rolling
West		Rolling

(Figure 8.7) South Fayette Location Map

(8.8) Clairton

Address	Clairton Education Center 501 Waddel St, Clairton, PA 15025		
AQS#	42-003-3007	MSA	Pittsburgh
Latitude (N)	40.294341	Longitude (W)	-79.885331
Comments	This is a population-oriented, suburban site that is located within an environmental justice area. Site selection was based on this location being on the edge of the Monongahela Valley, generally upwind of the Clairton Coke Works. During times of temperature inversions and atypical wind direction, the Coke Works and other sources in the Monongahela River valley impact this site.		

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Population Exposure	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Welfare Concerns
Monitor Start Date	1/1/2001	Appendix E Siting Criteria	Yes

Sensor Type	PM₁₀	Appendix C Method Code	141
Network Designation	SLAMS	Probe Height	8 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Welfare Concerns
Monitor Start Date	4/8/1992	Appendix E Siting Criteria	Yes

(8.8.1) Clairton Area Information

Street Name / Distance	Traffic Count (AADT)
Large Ave (29m)	Unavailable
Waddell Ave. (64m)	Unavailable
6th St. (144m)	Unavailable
Saint Clair Ave. (158m)	1763 (PennDot 2012)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Commercial
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	valley	rolling
East	valley	rolling
South		flat
West	valley	rolling

(Figure 8.8) Clairton Location Map

(8.9) Avalon

Address	520 Orchard Ave. Avalon, PA 15202		
AQS#	42-003-0002	MSA	Pittsburgh
Latitude (N)	40.499767	Longitude (W)	-80.071337
Comments	This is a population-oriented, suburban site that was previously impacted by the upwind PM and SO ₂ source known as Shenango Coke Works. Historically, a large number of odor and air pollution complaints were received by the Department from communities near this monitoring site. However, Shenango Coke Works permanently ceased operations during January 2016. Avalon is a core PM _{2.5} site that is used to determine compliance with national standards.		

Sensor Type	PM_{2.5}	Appendix C Method Code	183
Network Designation	SLAMS	Probe Height	5 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/2017	Appendix E Siting Criteria	Yes

Sensor Type	PM_{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	5 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	6/8/2011	Appendix E Siting Criteria	Yes

Sensor Type	Sulfur Dioxide	Appendix C Method Code	60
Network Designation	SLAMS	Probe Height Probe Residence	6 Meters 17.3 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/2006	Appendix E Siting Criteria	Yes

(8.9.1) Avalon Area Information

Street Name / Distance	Traffic Count (AADT)
Spruce St. (7m)	Unavailable
Orchard Ave. (33m)	Unavailable
South Birmingham Ave. (50m)	Unavailable
Ohio River Blvd. (59m)	14,140 (PennDot 2012)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Commercial
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North	Building	2	30
East	Building	4	20
South	Building	3	43
West	Building	4	15

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	Hill	Rolling
East		Flat
South	River	Flat
West		Flat

(Figure 8.9) Avalon Location Map

(8.10) Flag Plaza

Address	Boy Scouts of America Building 1275 Bedford Avenue Pittsburgh, PA 15219		
AQS#	42-003-0031	MSA	Pittsburgh
Latitude (N)	40.443367	Longitude (W)	-79.990293
Comments	This is an urban-based monitoring site that is located on the edge of Central Business District. In respect to prevailing winds, it is positioned downwind of Central Business District and upwind of a densely populated environmental justice area.		

Sensor Type	PM₁₀	Appendix C Method Code	79
Network Designation	SLAMS	Probe Height	10 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	4/26/1992	Appendix E Siting Criteria	Yes

Sensor Type	Carbon Monoxide	Appendix C Method Code	93
Network Designation	SLAMS	Probe Height Residence Time	10 Meters 9.5 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	5/5/2003	Appendix E Siting Criteria	Yes

Sensor Type	Air Toxics	Appendix C Method Code	150
Network Designation	Other	Probe Height	10 Meters
Purpose	Population Exposure	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Not Assigned
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/1995	Appendix E Siting Criteria	Yes

Flag Plaza, Continued

Sensor Type	Air Toxics	Appendix C Method Code	102
Network Designation	Other	Probe Height	10 Meters
Purpose	Population Exposure	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Not assigned
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	1/1/1995	Appendix E Siting Criteria	Yes

(8.10.1) Flag Plaza Area Information

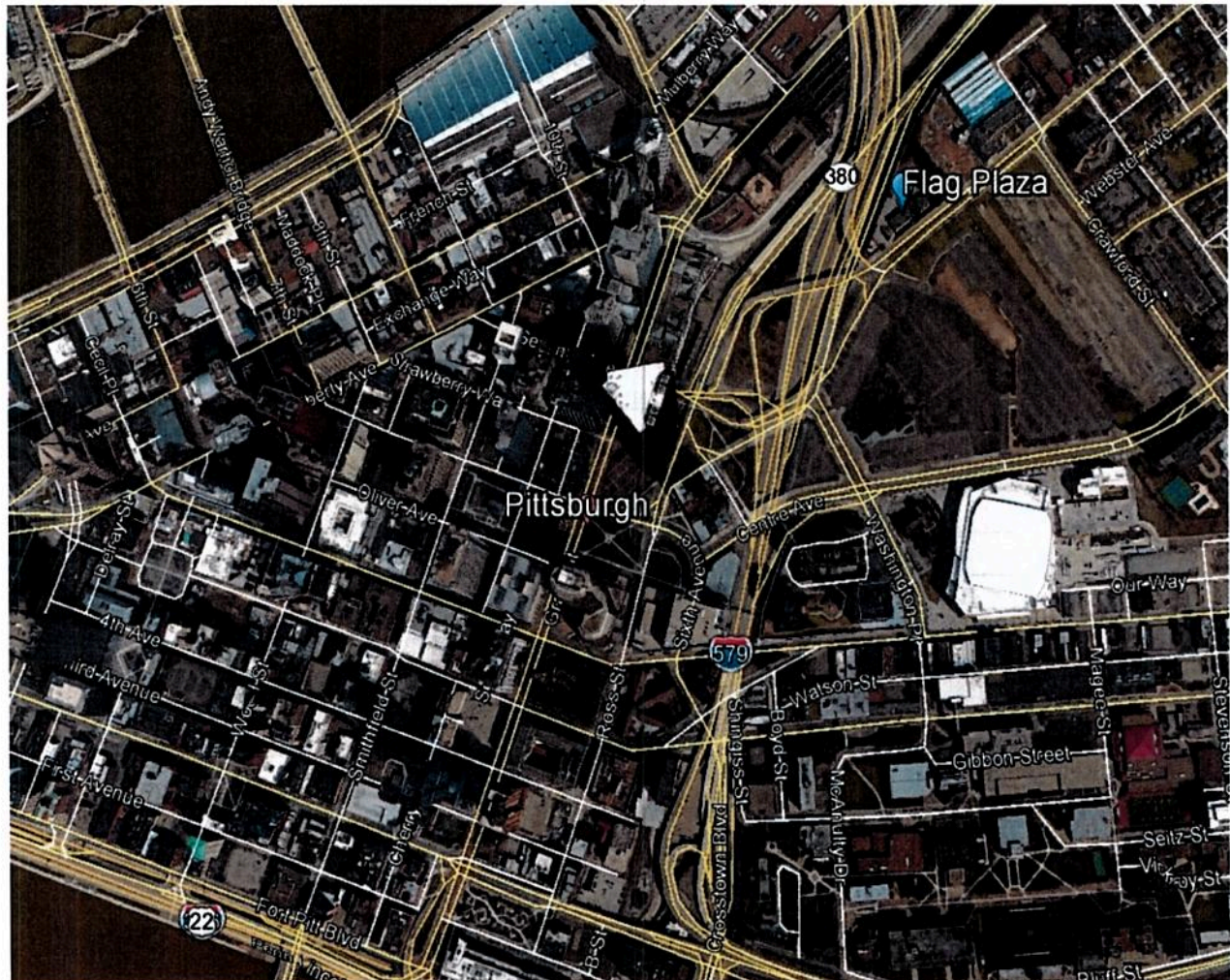
Street Name / Distance	Traffic Count (AADT)
Bedford Ave (17m)	5220 (PennDOT 2015)
Rt. 579 (65m)	46,422 (PennDOT 2012)
Bigelow Blvd. (105m)	20,221 (PennDOT 2015)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Commercial
East	Residential
South	Commercial
West	Commercial

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West	Building	5	130

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	River	Flat
East	City	Flat
South	City	Rough
West	City	Rough

(Figure 8.10) Flag Plaza Location Map



(8.11) Manchester

Address	Manchester Elementary School 1612 Manhattan Street Pittsburgh, PA 15233		
AQS#	42-003-0092	MSA	Pittsburgh
Latitude (N)	40.456427	Longitude (W)	-80.026740
Comments	Located to the northwest of downtown Pittsburgh, this population oriented suburban site is also an environmental justice area. Sources of influences are numerous, as this community is located near various warehouse/light-industrial facilities along Ohio River valley. There is also a significant contribution by mobile sources.		

Sensor Type	PM ₁₀	Appendix C Method Code	141
Network Designation	SLAMS	Probe Height	7 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood, Welfare Concerns
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure
Monitor Start Date	10/24/1989	Appendix E Siting Criteria	Yes

(8.11.1) Manchester Area Information

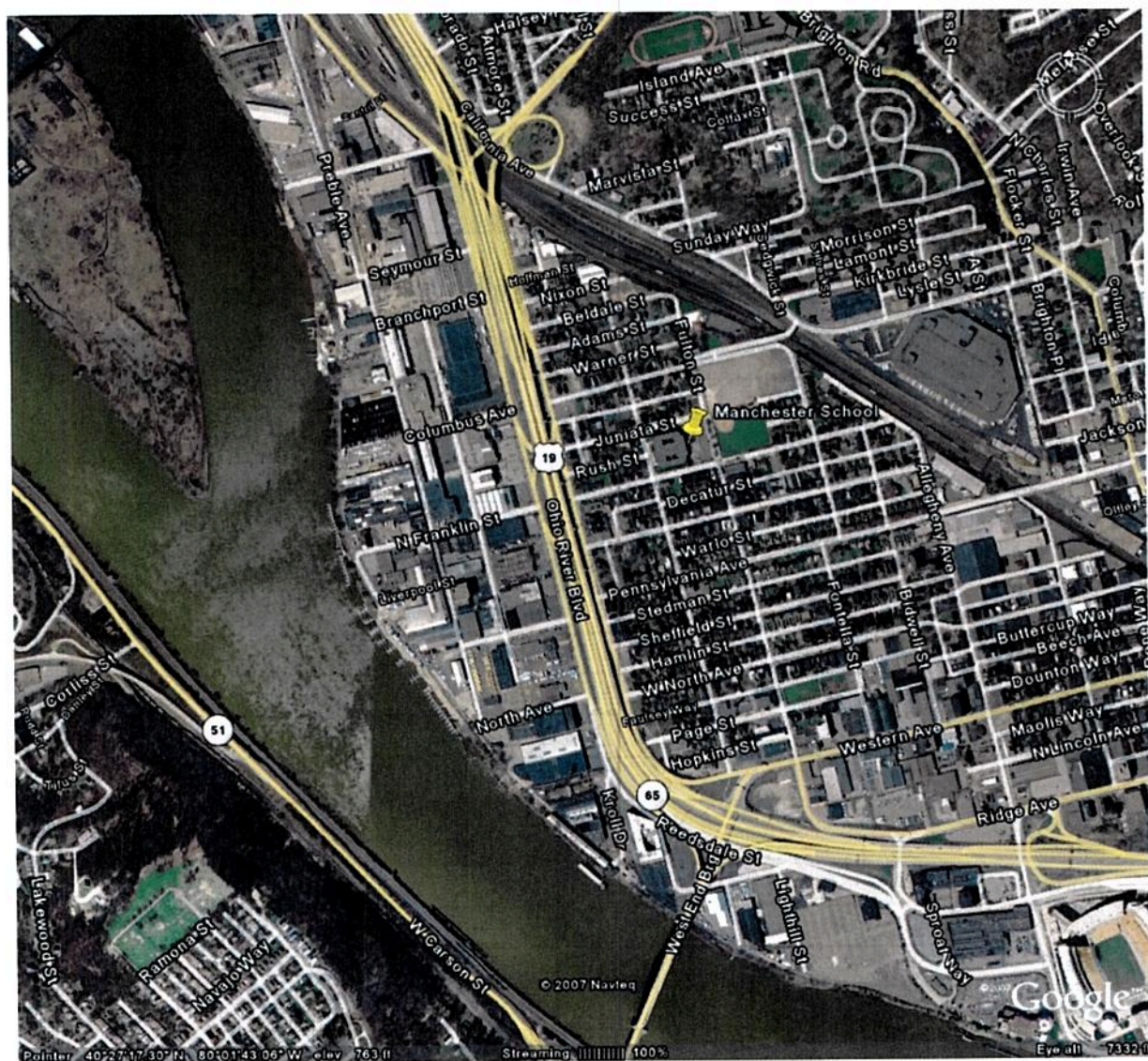
Street Name / Distance	Traffic Count (AADT)
Manhattan St (50m)	Unavailable
Chateau St (220m)	8565 (PennDot 2011)
Ohio River Blvd. (253)	29,100 (PennDot 2010)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

Manchester Area Information, continued

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Flat
East	Hills	Flat
South		Flat
West	River	Flat

(Figure 8.11) Manchester Location Map

(8.12) North Park

Address	North Park Golf Course Kummer Road North Park, PA		
AQS#	42-003-0093	MSA	Pittsburgh
Latitude (N)	40.606624	Longitude (W)	-80.021669
Comments	Located in the less populated northern portion of the County, this suburban site was created as a PM _{2.5} background site and to provide for even geographical distribution of the PM _{2.5} monitoring network. The sampler is located on the flat roof of the club house.		

Sensor Type	PM _{2.5}	Appendix C Method Code	145
Network Designation	SLAMS	Probe Height	5 Meters
Purpose	Population Exposure	Appendix D Design Criteria	Yes
Sample Frequency	Every Six Days	Appendix D Scale	Neighborhood
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Regional Background
Monitor Start Date	3/25/1999	Appendix E Siting Criteria	Yes

(8.12.1) North Park Area Information

Street Name / Distance	Traffic Count (AADT)
Kummer Rd. (229m)	3583 (PennDot 2014)
Pierce Mill Rd. (580m)	2397 (PennDot 2011)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Agriculture
East	Agriculture
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South			
West			

North Park Area Information, continued

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Rolling
East		Rolling
South		Rolling
West		Rolling

(Figure 8.12) North Park Location Map

(8.13) Bridgeville

Address	1311 Union Street Bridgeville PA 15017		
AQS#	42-003-0070	MSA	Pittsburgh
Latitude (N)	40.363016	Longitude (W)	- 80.102156
Comments	Established as a requirement of updated lead NAAQS. Air Quality Program modeling showed this location to be close to the modeled lead hot spot due to impact by G.E. Bridgeville Glass Corp. Exceedance of the lead NAAQS was documented at this site during the spring of 2014. Candidate for discontinuation due to closing of the major lead source.		

Sensor Type	Lead (Pb)	Appendix C Method Code	193
Network Designation	SLAMS	Probe Height	2 Meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Every Three Days	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Highest Concentration
Monitor Start Date	1/1/2010	Appendix E Siting Criteria	Yes

(8.13.1) Bridgeville Area Information

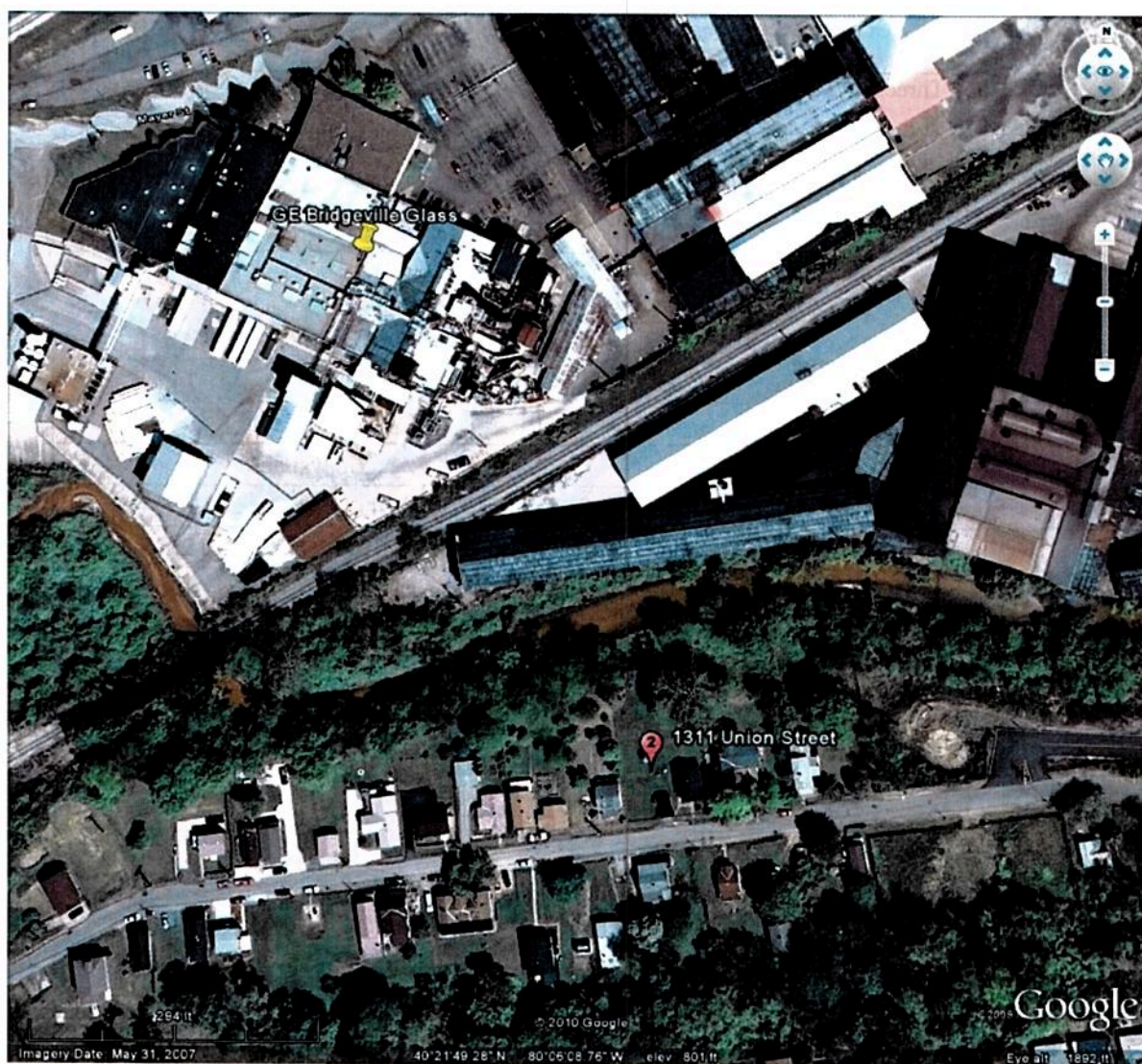
Street Name / Distance	Traffic Count (AADT)
Union St. (15m)	Unavailable
Terrace St. (100m)	Unavailable
Bower Hill Road (260m)	9,311 (PennDot 2011)
Washington Pike (520m)	20,870 (PennDot 2015)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Industry
East	Residential
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East			
South	Garage	2	5
West	House	4	10

Bridgeville Area Information, continued

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North	Valley	Rolling
East		Flat
South	Hill	Rolling
West		Flat

(Figure 8.13) Bridgeville Location Map

(8.14) Parkway East

Address	400 Sherwood Road Pittsburgh, PA 15221		
AQS#	42-003-1376	MSA	Pittsburgh
Latitude (N)	40.437430	Longitude (W)	-79.863572
Comments	This was installed to comply with updated NO ₂ NAAQS. Monitor inlets sample air at 18 meters from the nearest traffic lane of Route 376 (Parkway East). This location was approved by EPA Region III to qualify as a near road monitoring site and measures population exposure to roadway emissions.		

Sensor Type	Oxides of Nitrogen (NO₂) Trace Level	Appendix C Method Code	599
Network Designation	SLAMS	Probe Height Residence Time	3 Meters 5.3 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Highest Concentration
Monitor Start Date	9/1/2014	Appendix E Siting Criteria	Yes

Sensor Type	Carbon Monoxide (CO) Trace Level	Appendix C Method Code	593
Network Designation	SLAMS	Probe Height Residence Time	3 Meters 3.2 Seconds
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Highest Concentration
Monitor Start Date	9/1/2014	Appendix E Siting Criteria	Yes

Sensor Type	Black Carbon Monitor	Appendix C Method Code	894
Network Designation	Other	Probe Height (m)	4 Meters
Purpose	Research/Scientific Monitoring	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Highest Concentration
Monitor Start Date	9/1/2014	Appendix E Siting Criteria	Yes

Parkway East, continued

Sensor Type	PM _{2.5}	Appendix C Method Code	183
Network Designation	SLAMS	Probe Height	4 meters
Purpose	Regulatory Compliance	Appendix D Design Criteria	Yes
Sample Frequency	Hourly	Appendix D Scale	Microscale
Appendix A QA Assessment	Yes	Appendix D Objectives	Population Exposure, Source Oriented
Monitor Start Date	1/1/2016	Appendix E Siting Criteria	Yes

(8.14.1) Parkway East Area Information

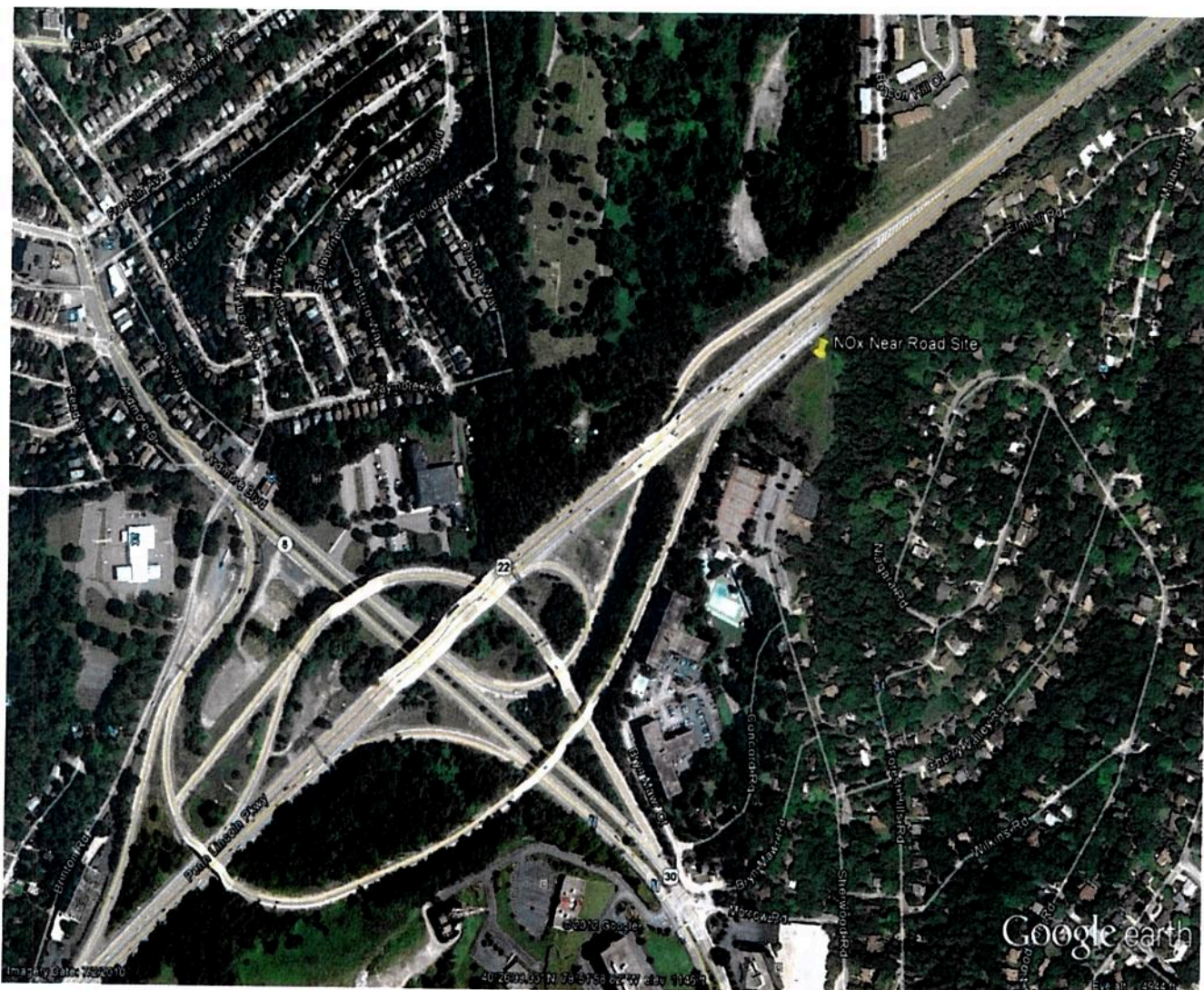
Street Name / Distance	Traffic Count (AADT)
Penn Lincoln Parkway Rt. 376 (18 m)	75,971 (PennDot 2014)

Direction	Predominant Land Use (Industry, Residential, Commercial or Agriculture)
North	Residential
East	Residential
South	Residential
West	Residential

Direction	Obstructions	Height (m)	Distance (m)
North			
East	Trees	15	33
South			
West			

Direction	Topographic Features (hills, valleys, rivers, etc.)	General Terrain (flat, rolling, rough)
North		Rolling
East	Hill	Rough
South		Rolling
West		Rolling

(Figure 8.14) Parkway East Location Map



(9) Public Comments Period

This network review was made available for public comment as required by 40 CFR Part 58 §58.10. Comments were accepted by e-mail and conventional mail until the close of business on June 20, 2017. All comments received as well as responses by ACHD are included in the final draft to be submitted to EPA Region III no later than July 1, 2017.

Submit comments by e-mail →

darrell.stern@alleghenycounty.us

Submit comments by conventional mail →

**Darrell Stern
301 39th street (bldg. 7)
Pittsburgh, PA 15201**

(9.1) Allegheny County Health Department Press Release

The Allegheny County Health Department issued a press release on May 22, 2017 to inform the public of the annual network plan comment period. The press release provides a web link to the draft annual network plan and explains how to submit written comments during the comment period.

Figure 9.1 Allegheny County Health Department Press Release

ALLEGHENY COUNTY
ALWAYS INSPIRING

FOR IMMEDIATE RELEASE
May 22, 2017

Contact: Melissa Wade
Public Health Information Officer
412-578-8312 (office)
412-339-7995 (cell)
melissa.wade@alleghenycounty.us

Health Department Seeks Comment on Annual Air Monitoring Network Plan

PITTSBURGH – The Allegheny County Health Department (ACHD), today, is requesting public comment on its Air Monitoring Network Plan for 2018, an annual report which provides a detailed description of how and where air pollution is monitored in Allegheny County.

The Air Monitoring Network Plan for 2018 is a 71-page document required by the U.S. Environmental Protection Agency. It provides the specific location of each monitoring station, siting criteria, monitoring methods and objectives, frequency of sampling, pollutants measured at each station and aerial photographs showing their proximity to air pollution sources.

The network includes the following 14 locations: Avalon, Bridgeville, Clairton, Glassport, Harrison, Liberty, Lincoln, North Braddock, South Fayette; three locations within the City of Pittsburgh (Flag Plaza in downtown Pittsburgh, Lawrenceville and Manchester) as well as sites in North Park and near the Parkway East (I-376) in Wilkinsburg.

One or more of the following pollutants is measured at each site; sulfur dioxide, carbon monoxide, nitrogen oxides, total reactive nitrogen, ozone, PM₁₀, PM_{2.5}, lead and air toxics.

The [complete report](#) is posted in the Air Quality Program's section of the Health Department's website and may be found at www.achd.net/air. Comments may be submitted via e-mail until 4:30 p.m., Tuesday, June 20th, to Darrell Stern, Chief of Air Monitoring, at darrell.stern@alleghenycounty.us. Written comments will be accepted until 4:30p.m., Tuesday, June 20th and may also be sent by U.S. Mail to Darrell Stern, Chief of Air Monitoring, 301 39th Street, Pittsburgh PA 15201.

###

(10) Public Comments and Responses

10.1 GASP, CWA, and ACCAN

Comments in this section were extracted from a document as received by ACHD during the public comment period. The document, authored jointly by Group Against Smog and Pollution (GASP), Clean Water Action (CWA) and Allegheny County Clean Air Now (ACCAN), is included in unedited form in Appendix B. Every effort was made to summarize the major points and principles presented in the received document.

1. Additional SO₂ monitoring is needed to assess emissions produced by the Cheswick Power Station (“Cheswick”). The draft plan’s lack of a Cheswick monitor means that ACHD cannot provide timely air pollution data to the public, a clear and unambiguous objective of a well-designed monitoring network. An SO₂ monitor can provide such data, and is thus necessary to protect public health.

Department Response: Air quality characterization for the areas surrounding the Cheswick power plant is being addressed via “Round 3” of the 2010 SO₂ NAAQS, otherwise known as the SO₂ Data Requirements Rule (DRR). EPA guidance specifies that either modeling or monitoring can be used for air quality characterization. This demonstration has yet to be finalized at the time of this annual network plan.

2. The SO₂ monitor descriptions must be changed to match the monitoring objectives or additional changes to the monitoring network may be needed. The most recent emissions data suggest that there are no major sources of SO₂ to monitor within four kilometers of the Avalon, Lawrenceville, and South Fayette sites. That being the case, the neighborhood designation makes little sense for those monitors. The monitors should be re-designated as area-wide monitors. Alternatively, if ACHD wishes to continue to operate these monitors as neighborhood monitors, it should re-locate one or more of them to Cheswick or Glassport, as this would likely provide more useful data regarding SO₂ pollution levels in Allegheny County.

Department Response: Monitoring types, objectives, and spatial scales can vary by pollutant based on EPA’s monitoring guidelines. For SO₂, scales are primarily defined according to land use and distance to sources (40 CFR Part 58 Appendix D Section 4.4). “Neighborhood” is currently the most appropriate scale for these sites, while the objectives can be more specific for the sites (E.g., Lawrenceville has an objective of population exposure while South Fayette has an objective of background). Even though these monitors may represent a larger region by area or population served, urban scale may not be appropriate for either of these sites since there are enough localized concentrations that could lead to some differences between sites (Urban may be appropriate as an *objective* for Lawrenceville, however). More data is needed from the Avalon SO₂ monitor in order to assess its scale and objectives following the shutdown of Shenango. ACHD will continue to review the appropriate monitor types, objectives, and scales for SO₂ sites.

3. ACHD should install a SLAMS or special purpose monitor for PM_{2.5} at street level in Downtown Pittsburgh to ensure that all areas of the County, including Downtown Pittsburgh, attain the NAAQS for PM_{2.5}.

Department Response: ACHD acknowledges that Downtown Pittsburgh was identified as a possible location for special purpose or unofficial PM_{2.5} surveillance by the ACHD Network Assessment (July 2015) as well as other studies by CMU and Pitt. Due to air monitor siting criteria required by 40CFR58 Appendix E, the highest PM_{2.5} concentration areas identified by the CMU and Pitt studies would not be acceptable for a SLAMS PM_{2.5} monitor due to restricted air flow, distance to roadways and distance to obstructions, and therefore such a monitor could not be compared to PM_{2.5} NAAQS. ACHD will continue to evaluate locations for potential PM_{2.5} surveillance.

4. ACHD should clarify the threat EPA's proposed budget cuts pose to its continued ability to effectively monitor PM_{2.5} should such cuts to funding come to pass.

Department Response: EPA's proposed budget cuts are beyond the scope of the network plan. Once any cuts are made official, ACHD will propose a plan to the Criteria/Monitoring Subcommittee.

5. Termination of the Lawrenceville Toxic Metals Study would be especially troublesome. As the attached graph indicates, the special purpose monitor at this site continues to show unexplained spikes of manganese. In addition, the one-year average, which had been declining over the past few years, has begun to level off. Over the past several months, the study data has also shown a steady rise in chromium concentrations.

Department Response: ACHD plans to continue the Lawrenceville Toxics Metals Study during 2018. However, it is not possible to guarantee continued operation of this monitor since it is located on private property.

10.2 Clean Air Council

Comments in this section were extracted from a document as received by ACHD during the public comment period. The document, authored by Clean Air Council, is included in unedited form in Appendix C. Every effort was made to summarize the major points and principles presented in the received document.

1. The Department should strengthen its existing monitoring program for air toxics in the Mon valley. Air toxics continue to have a significant and lasting effect on the Mon valley and Pittsburgh.

Department Response: ACHD currently monitors benzo(a)pyrene, benzene, toluene, ethylbenzene, p-xylene, m-xylene, o-xylene, and naphthalene at the Liberty site in the Mon valley. A summary of benzo(a)pyrene and benzene measurements can be found in ACHD's Annual Summary Report which is posted on the Air Quality website. Spreadsheets of the above pollutant data are available upon request. Additionally, ACHD is planning to conduct a multi-site passive sampling study in the Mon Valley in the near future.

2. The Department should make the information regarding the air toxics monitoring studies more accessible to the public.

Department Response: ACHD plans to continue to enhance air toxics health information and special study data on the Air Quality website. Much of the data produced by these studies is currently posted on the Air Quality website as either special study reports or in the quarterly and annual reports. Unfortunately, since ACHD conducts air toxics studies using non-continuous methods, posting of live data is not possible due to delays associated with laboratory analysis of sampling media.

3. The Department should conduct a study of hazardous air pollutants in the area near the Cheswick Generating Station.

Department Response: See response regarding Cheswick Generating Station in section 10.1

4. The Department should make the daily reports of concentration data on its website more useful for public use.

Department Response: ACHD supplies hourly updated continuous monitoring data to the Air Quality webpage, which is updated hourly. Incorporation of filter PM/lead data, canister toxics data, and/or cartridge toxics data to the Current Air Quality Data file not possible because the these monitor types must be processed at a laboratory. Along with the Current Air Quality Data file, ACHD also supplies hourly updated Current Air Quality Index, under Monitored Data. The Current Air Quality Index is helpful to community members, providing current air quality conditions in specific areas and also providing a summary of health effects associated with those conditions.

5. The Department should install and operate a sulfur dioxide monitor at the Glassport location.

Department Response: Previous monitor maintenance was problematic at the Glassport site due to extreme vandalism, theft and deteriorating and unsafe access roads. No adequate alternative location has been identified by ACHD. Furthermore, modeling performed for the proposed SO₂ SIP for the Allegheny, PA nonattainment area (NAA) was designed to represent air quality at all receptor locations within the 22 municipalities in the NAA. The modeling was carefully reviewed for performance compared to current and historical data at all locations, including the former Glassport site. The types of industrial operations closest to this location have not changed much since the site was terminated. ACHD concludes that redeployment of a monitor in Glassport would not likely change any monitoring or modeling analyses for the Glassport area. Last, CMU's ongoing CFD study should provide additional insight for SO₂ short-term monitoring and modeling for Glassport and the surrounding area.

6. The Department should install an additional monitor near the Grandview Golf Course, which would improve the reliability of the air monitoring network and future air modeling efforts.

Response: Similar to the previous response, modeling performed for the proposed SO₂ SIP for the Allegheny, PA NAA was designed to represent air quality at all receptor locations within the in NAA, including unmonitored areas in Braddock and North Braddock. ACHD concludes that modeling is sufficient for characterization of SO₂ in these areas.

7. Sulfur Dioxide emissions from Cheswick Generating Station are not properly accounted for; the Department should install an additional monitor to measure the impact of these emissions. The large amount of emissions of hazardous air pollutants from the Cheswick Generating Station are an additional reason why the Department should install a monitoring station near Springdale.

Department Response: See response regarding Cheswick Generating Station in section 10.1

10.3 Individual Citizen Comments

1. I agree with GASP's recommendation to put a monitor downwind of the Springdale coal plant and at least one in Downtown, especially with the growth of residences there. Also, the characteristics of a well can change, so why remove the only thing protecting people from a change for the worse? Keep the well monitor.

Sharon Yeager, Mt. Washington

Department Response: See previous responses in section 10.1. The passive sampler was installed in Deer Lakes Park in response to citizen request. The gas well activity was downwind of the park in respect to prevailing winds, making the park less likely to receive any emissions from the well pad. During active development phases at the well pad when maximum emissions were most likely, no elevated levels of the target compounds were observed in any of the samples that were collected. When the well transitioned to the production phase, no further emissions were likely, leading to the decision to stop sampling at Deer Lakes Park.

2. Doesn't matter where your monitors are if your neighbors have fire pits you have pollution problems in your house. Smoke from wood fires is bad for your lungs. Like living in a forest fire. We need clean air more than recreational fires.

John Buchignani

Department Response: Monitoring for wood smoke and other emissions from individual properties is beyond the scope of the network plan. ACHD does not have the resources to monitor these small emissions sources. ACHD's revised open burning regulation went into effect January 1, 2015. The regulation prohibits open burning on Air Quality Action Days. Please report any burning issues to the ACHD complaint line at 412-687-2243. Complaints are investigated by ACHD enforcement inspectors. Violators of open burning regulations can be fined for noncompliance. To better inform the public, ACHD has pursued an advertising campaign to provide information about the regulation updates and health effects of open burning. More information is available at www.burnfactsallegheny.info

3. I will second the three comments of the Group Against Smog and Pollution (GASP):
 - Install an additional SO₂ monitor downwind of the single largest stationary source of SO₂ in Allegheny County: Cheswick Power Plant
 - Continue expanding their PM_{2.5} monitoring network to include street-level monitoring of Downtown Pittsburgh
 - Guarantee continued monitoring for the Lawrenceville Toxic Metals Study
 - Understanding how the weather interacts with air quality may provide avenues for compromise with polluters: e.g. do not permit generation of pollution on temperature inversion days or days where inversions are in the forecast for the following day.

Greg Langmead, Edgewood, PA

Department Response: See previous responses in section 10.1. ACHD performs meteorological evaluations on a daily basis for potential effects on air quality. Forecasts and reporting for the Air Quality Index provide updated reports to the public. Additionally, the Department issues air quality action day alerts when there is a forecast for elevated pollution levels. These alerts are accompanied by a list of things that the public can do to reduce the potential for unhealthful air in their communities. US Steel facilities are provided live output from ACHD monitors near their plants in the Mon Valley for the purpose of curtailing production rates when air pollution levels become elevated to avoid exceeding NAAQS for the criteria pollutants.

4. I am very concerned about the air quality where I live in the city of Pittsburgh. I don't think enough has been done to police air polluters in Allegheny County and give the citizens/residents clean air to breathe. As a result, I am very skeptical that sufficient regulations will be imposed on significant new polluting sources such as the new cracking plant being built and then afterwards that active monitoring and policing of this new polluting source will be accomplished.

With regard to existing site air quality monitoring, I encourage and request that the following be done:

- Install an additional SO₂ monitor downwind of the Cheswick Power Plant.
- Continue to expand the PM_{2.5} monitoring network to include street-level monitoring of Pittsburgh especially the area where I live which is very close to the downtown area.
- Continue the monitoring for the Lawrenceville Toxic Metals Study.

Robert Havrilla, Pittsburgh, PA

Department Response: See previous responses in sections 10.1 and 10.2.

5. I have lived in Liberty Boro since 2006. It seems to me that every year the air gets worse. When I moved in I could smell the mill probably about once a week. Now it seems that I am being gassed out at least 4 days a week. It smells horrible and causes issues sleeping at night due to the smell. I moved from Clairton to get away from it and it seems to be getting worse.

Greg Lash

Department Response: ACHD is responsive to odor complaints and investigates them on a case by case basis. Please see the Air Quality website for instructions about how to file complaints by telephone or directly through the webpage.

6. I have read through the lengthy plan which is absent any focus on the community in which I live, Squirrel Hill. I feel that the fact that we have some of the worst air in the USA and that Squirrel Hill, the largest neighborhood in the city is affected should justify a plan for addressing this problem.

As an active individual who runs and bikes almost every day, I can attest to the fact that there are many mornings when it is impossible for me to do so because of the horrible smells and the way in which the air makes it noticeably difficult to breathe. There are evenings when sleeping with

the windows open I am awakened in the middle of the night by the noxious odor. Therefore, I am taking advantage of a formal opportunity to express my concern to you and through you, to the County, and asking that this issue be given the highest priority that it deserves for the wellbeing of our community.

Howard M Rieger
Pittsburgh, PA

Department Response: The Air Quality Program will continue to pursue odor assessment and remediation in Allegheny County. Continuing to submit complaints is a way that residents can bring ongoing odor problems in their communities to the attention of ACHD. Due to restrictions in resources, ACHD cannot place air monitoring stations in every community. Additionally, detection and quantification of odors is a challenge to the current science of air monitoring. The human nose is much more sensitive to some odor causing compounds than instruments currently designed to quantify them, thus the Air Quality Program frequently fails to detect measurable quantities of odor causing compounds even when odors are present.

7. I am a resident in Oakland (zip code 15213) and I would like to make a public comment on the Allegheny Health Department's ambient air quality Monitoring Network Plan for 2018. Here is what I think the ACHD should do:

- Install an additional SO₂ monitor downwind of the single largest stationary source of SO₂ in Allegheny County: Cheswick Power Plant
- Continue expanding their PM_{2.5} monitoring network to include street-level monitoring of Downtown Pittsburgh
- Guarantee continued monitoring for the Lawrenceville Toxic Metals Study

Please understand that I am a real person and not a robot/automated email.

Sam Ressin

Department Response: See previous responses in sections 10.1 and 10.2.

8. I'd like to express my agreement with GASP's recommendations regarding the air quality monitoring plan:

- Install an additional SO₂ monitor downwind of the single largest stationary source of SO₂ in Allegheny County: Cheswick Power Plant
- Continue expanding their PM_{2.5} monitoring network to include street-level monitoring of Downtown Pittsburgh
- Guarantee continued monitoring for the Lawrenceville Toxic Metals Study

Daniel Parnell McCarter, Ann Arbor, MI (has family member who lives in Pittsburgh, PA)

Department Response: See previous responses in sections 10.1 and 10.2.

Appendix A

Special Study Projects

(A1) Introduction

ACHD frequently conducts investigations and studies using techniques that produce quantifiable results by methods that are not classified by the USEPA as approved reference or equivalent methods. Often these investigations originate as responses to citizen concerns or complaints. This section briefly describes special studies that are currently ongoing or have been discontinued within the past year. Data from these studies is not submitted to the AQS database, however much of it is available for review on the ACHD webpage and all is available upon public request.

(A2) HAP Metals Sampling

(A2.1) Lawrenceville NCORE Site Metals

Since 2013, HAP metals are measured at the Lawrenceville NCORE site on a routine and ongoing basis. The sampler is a high-volume TSP sampler that uses high purity quartz filters. Sampling frequency is every six days and each sample is collected for 24 hours. Analysis is conducted by the West Virginia DEP's Guthrie Laboratory using an ICP/MS analytical method. The analysis includes Be, Cr, Mn, Ni, As, Cd and Pb. Data is available to the public upon request.

(A2.2) McConway & Torley Metals

A special study was initiated on 04/30/2011 in Lawrenceville in response to public concern about local exposure to toxic metals potentially being released into the community by McConway & Torley LLC, located at 109 49th Street, Pittsburgh PA. Activities at this industrial site include a steel foundry and railcar coupling casting.

ACHD conducts air sampling on McConway & Torley property using a USEPA reference method PM₁₀ sampler and high purity quartz filters. Sampling is conducted every three days and each sample operates for 24 hours at 40 cfm, after which time the filter is removed for analysis for the metals of concern by a local contracted laboratory. The exposed sample filters are analyzed for manganese, lead and chromium. Updated reports are available on the ACHD webpage.

(A2.3) Kopp Glass Metals

Upon request by the USEPA, this study started on April 1, 2017 on the property of Kopp Glass, located in Swissvale PA. The sampler is located to the northwest of the plant, approximately 283 feet from the main stack to determine emissions of HAP metals during normal operating conditions at the plant. Sampling is conducted using a Thermo Scientific Partisol 2025 sampler configured to collect PM₁₀. Each sample is collected over a 24-hour period. Sampling will take place over a six-month period. Sampling frequency will be daily during the initial 2 months of sampling. Frequency will be reduced to every three days for the final 4 months of sampling. The exposed samples, along with all relevant flow and sample volume data, will be shipped to the EPA contract laboratory (ERG) for analysis by ICP-MS for various HAP metals including Cd, Pb, Co, Mn, Se, and Cr.

The EPA will examine initial sampling results. If detectable quantities of total chromium are detected, the EPA may request a second sampler to be installed to specifically sample for hexavalent chromium using specially prepared sample media per ASTM method D7614-12.

(A3) Volatile Organic Compound (VOC) Sampling**(A3.1) Charcoal Tube Sampling**

Charcoal tube sampling is used by ACHD routinely to measure ambient concentrations of targeted VOC's. 24 hour samples are collected at Liberty every three days and at Avalon every six days using sampling pumps calibrated to 1 liter per minute. The exposed sorbent tubes are sent to the Allegheny County Medical Examiner's Laboratory for analysis by a GC/FID method for benzene, ethyl benzene, toluene, xylenes and naphthalene. Charcoal tube samples are also collected by field staff using battery powered personal samplers for shorter durations and higher flow rates during odor investigations, usually in response to citizen complaints. Data is available to the public upon request.

(A3.2) Passive VOC Sampling

ACHD used Radiello brand passive samplers over the past two years to conduct long term surveillance of targeted air toxic compounds including benzene, ethylbenzene, toluene, xylenes, styrene, n-hexane, and naphthalene. Passive sampling requires no electrical power, sampler maintenance or flow calibrations. The small size and low cost of the sampling enclosure and sampling media allows for multiple sampling locations in remote locations. Exposure time of the sampling media is variable. Longer duration provides for greater sensitivity and shorter duration provides for higher resolution. ACHD decided on a 2-week exposure period for recent applications. After exposure, the sampling media is sent to a contracted laboratory for analysis.

ACHD employs six-liter SUMMA canisters to conduct passive sampling when a larger list of target compounds is desired. A battery-operated timer is used to open a solenoid valve to allow ambient air to enter a purified and evacuated canister. A restrictive, adjustable orifice in the timer slows the air flow so that the canister is slowly filled over a specified period before the timer closes the valve. The canisters are then sent to a qualified laboratory for analysis by USEPA method TO15, which includes analysis for over 60 compounds and additionally includes various tentatively identified compounds.

(A3.2.1) Neville Island Toxics Study

Communities adjacent to the Neville Island Industrial area have been a source of numerous industrial odor complaints for many years. Starting in May 2015 and concluding in March 2017, passive Radiello brand (VOC) samplers were installed at 7 properties in the study area and an 8th sampler was installed at the Avalon monitoring site. The samplers were situated in municipalities that are typically downwind of the industries on Neville Island, including Emsworth, Ben Avon, Avalon, Brighton Heights, and Bellevue. In January 2016, the Shenango Coke Works, a major air toxics source in the area, was permanently shut down. The passive sampling network was kept in place for a full year after this shut down to assess reductions in ambient air toxic concentrations. The Avalon monitoring site passive Radiello sampler was retained for continued surveillance during the remainder of 2017. A detailed report is available on the ACHD website.

(A3.2.2) Deer Lakes County Park Marcellus Shale Well Surveillance

Due to citizen concerns about impact on air quality from Marcellus Shale well fracking to the east of Deer Lakes County Park, a passive Radiello brand sampler was placed in the park near the eastern border. Sampling was conducted from June 2014 through April 2017, covering all stages of the drilling operation until the well was in production. A detailed report is available on the ACHD website.

(A3.2.3) Imperial Pointe Marcellus Shale Well Surveillance

Imperial Pointe is a residential community that is adjacent to property owned by the Greater Pittsburgh International Airport. When the Airport Authority leased the land for the purpose of Marcellus Shale well drilling, the community became concerned about exposure to toxic gases. In response, ACHD installed a passive SUMMA canister sampler in the community. The sampler was configured to collect 24 hour samples and was operated every six days, from March 2014 through April 2017. The sampler was removed after the nearest well pad went into the production phase. A detailed report is available on the ACHD website.

(A3.3) Benzo[a]pyrene Monitoring

Benzo[a]pyrene is a polycyclic aromatic hydrocarbon that is a known human carcinogen and is potentially emitted by the metallurgical coking industry. ACHD currently monitors for this compound using an in-house developed method, analyzing PM₁₀ high volume samples using high pressure liquid chromatography (HPLC). PM₁₀ filters from the Liberty air monitoring site are analyzed for benzo[a]pyrene since this site is impacted by emissions from the Clairton Coke Works. South Fayette station PM₁₀ filters are also analyzed for benzo[a]pyrene to serve as an upwind background site. Benzo[a]pyrene was also monitored at the Avalon station until the PM₁₀ sampler was removed as of January 2017. Data is available to the public upon request.

(A4) Hydrogen Sulfide

Hydrogen Sulfide is an odorous compound that has a very low odor threshold concentration. Expectedly, numerous community odor complaints are common near industries that release hydrogen sulfide. Traditionally ACHD has measured H₂S at monitoring sites impacted by the metallurgical coking industry. Hydrogen sulfide is routinely and continuously measured at the Liberty and Avalon air monitoring sites using an EPA approved equivalent method SO₂ monitor along with a converter which converts all H₂S into SO₂ before the ambient air enters the monitor, yielding SO₂ + H₂S. Since sulfur dioxide is measured separately at each site, the measured SO₂ concentrations are subtracted from the SO₂ + H₂S channel. This occurs continuously by use of a “math channel” in the data logger, yielding the H₂S concentration. Recent hourly hydrogen sulfide data is available on the Air Quality Program’s portion of the ACHD website and historic data is available to the public upon request.

Appendix B

Group Against Smog & Pollution (GASP)

1133 S. Braddock Avenue, Suite 1A

412 924 0604

www.gasp-pgh.org

The following document was received via email during the posted comment period and is included here in an unedited form. This document is a combined effort Group Against Smog and Pollution (“GASP”), Allegheny County Clean Air Now (“ACCAN”), the Air Quality Collaborative (“AQC”), and Clean Water Action (“CWA”), providing comments regarding the ACHD’s Air Monitoring Network Plan for 2018.



GROUP AGAINST SMOG & POLLUTION
1133 S. Braddock Avenue, Suite 1A
Pittsburgh, PA 15218
412-924-0604
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June 20, 2017

VIA EMAIL: darrell.stern@alleghenycounty.us

Darrel Stern, Chief of Monitoring
Allegheny County Health Department
Air Quality Program
301 39th Street – Building 7
Pittsburgh, PA 15201

Re: Comments to Air Monitoring Network Plan for 2018

Dear Mr. Stern:

Kindly accept for consideration the following comments of the Group Against Smog and Pollution (“GASP”), Allegheny County Clean Air Now (“ACCAN”), the Air Quality Collaborative (“AQC”), and Clean Water Action (“CWA”) regarding the ACHD’s Air Monitoring Network Plan for 2018 (“Draft Plan”). The Draft Plan, which states that public comments “will be accepted by e-mail and conventional mail until the close of business on June 20, 2016 [*sic*],” is posted on ACHD’s website (<http://www.achd.net/air/publiccomment2017/ANP2018.pdf>).

Very truly yours,

/s

Ned Mulcahy, Esq., MPH
Staff Attorney
Group Against Smog and Pollution
1133 South Braddock Avenue – Suite 1A
Pittsburgh, PA 15218

/s

Steve Hvozdovich
Pennsylvania Campaigns Director
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100 5th Avenue – Suite 1108
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/s

Matthew Mehalik, Ph.D.
Executive Director
Air Quality Collaborative
Energy Innovation Center – Suite 140
1435 Bedford Avenue
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/s

Thaddeus Popovich
Co-Founder
Allegheny County Clean Air Now
c/o Community Presbyterian Church Ben Avon
7501 Church Avenue
Pittsburgh, PA 15202

**COMMENTS OF GASP, AQC, ACCAN, AND CWA REGARDING
THE ALLEGHENY COUNTY HEALTH DEPARTMENT'S
AIR MONITORING NETWORK PLAN FOR 2018**

The Clean Air Act (“CAA”) requires each state implementation plan to “provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to ... monitor, compile, and analyze data on ambient air quality.”¹ Title 40 of the Code of Federal Regulations, Part 58, specifies requirements for conducting “Ambient Air Quality Surveillance” capable of producing data to support “the State Implementation Plans (SIP), national air quality assessments, and policy decisions.”² In addition to compliance monitoring, objectives for a monitoring network also include providing “air pollution data to the general public in a timely manner” and supporting “air pollution research studies.”³

I. Sulfur Dioxide Monitoring

Allegheny County has seen a drop in sulfur dioxide (“SO₂”) emissions over the past five years⁴ but SO₂ exposure remains a significant health concern in southwestern Pennsylvania. A portion of Allegheny County is designated non-attainment for the 2010 National Ambient Air Quality Standard (“NAAQS”) for SO₂, as are portions of Beaver County, Armstrong County, and all of Indiana County.⁵ The adverse health and respiratory impacts of exposure to SO₂ will

¹ 42 U.S.C. § 7410(a)(2)(B).

² 40 C.F.R. § 58.2(a)(5).

³ Office of Air Quality Planning and Standards, *Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Ambient Air Quality Monitoring Programs* § 1.0 (U.S.E.P.A Pub. No. EPA-454/B-17-001) (2017); see also 40 C.F.R. Part 58, App. D § 1.1.

⁴ See attached Exhibit A, showing the top ten stationary sources for SO₂ in Allegheny County for the years 2011-2015, the most recent years for which data is available on the PA DEP eFacts website: <http://www.ahs.dep.pa.gov/eFACTSWeb/default.aspx/default.aspx>.

⁵ 78 Fed. Reg. 47,191 (August 5, 2013) (“The final SO₂ designations contained in this action are based upon violations of the NAAQS determined by air quality monitoring data from calendar years 2009–2011 ... [t]he 1-hour primary standard is violated at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of the daily maximum 1-hour average concentrations exceeds 75 ppb”).

continue to burden these areas of Southwestern Pennsylvania.⁶ An effective monitoring network is vital to reducing harmful SO₂ emissions and their associated adverse health impacts.

Appendix D of Title 40, Part 58 includes monitoring network requirements specific to each pollutant for which a NAAQS has been established, including SO₂.⁷ The requirements for SO₂ monitoring in Appendix D include a method for determining the minimum number of monitors that must be operated in each core based statistical area (“CBSA”).⁸ According to that formula, ACHD must only operate one SO₂ monitor in Allegheny County.⁹ However, Appendix D lists only *minimum* requirements for a monitoring network; “[t]he total number of monitoring sites that will serve the variety of data needs *will be substantially higher* than these minimum requirements provide.”¹⁰

With respect to sulfur dioxide, “SIP control strategies for SO₂ abatement are usually keyed on achieving the NAAQS at ... points of maximum concentration,” thus the “[m]onitoring sites should be located at or near these points of maximum concentration as revealed by modelling to provide a continuing assessment of the situation.”¹¹ When there is a single source “that contributes overwhelmingly to SO₂ pollution” in an area, it is “very desirable to monitor the maximum ground-level contribution from that source since the attainment and maintenance of

⁶ See generally National Center for Environmental Assessment, *Integrated Science Assessments for Sulfur Oxides – Health Criteria*, §§ 3.1, 4.2, and 5.2 (U.S.E.P.A. Pub. No. EPA/600/R-08/047F) (2008).

⁷ 40 C.F.R. Part 58, App. D § 4.4.

⁸ 40 C.F.R. Part 58, App. D § 4.4.2. (NOTE: Allegheny County is not, itself, a CBSA. It is part of the seven-county Pittsburgh CBSA. However, 40 C.F.R. Part 58, App. D § 2(e) notes that “[f]ull monitoring requirements apply separately to each affected ... local agency,” meaning Allegheny County may be treated as a CBSA.).

⁹ Allegheny County Health Department, *Air Network Monitoring Plan for 2018*, at 14.

¹⁰ 40 C.F.R. Part 58, App. D § 1.1.2 (emphasis added).

¹¹ Robert J. Ball & Gerald E. Anderson, *Optimum Site Exposure Criteria for SO₂ Monitoring*, § 2.3.1, (U.S.E.P.A. Pub. No. EPA-450/3-77-013) (1977). This is consistent with the Clean Air Act’s directive that each state, and each local agency designated to implement the requirements of the Clean Air Act within a specific area of a state, must adopt an implementation plan to achieve and maintain the NAAQS “within the entire geographic area” of the state or specific area over which the local agency is responsible. See 42 U.S.C. § 7407(a).

the NAAQS in the area would be highly dependent on the effectiveness of control measures applied to that source.”¹²

ACHD currently operates five SO₂ monitors: South Fayette Township, Avalon, Lawrenceville, North Braddock, and Liberty. Two of the five monitors – North Braddock and Liberty – are located near an existing major source of SO₂ and two others – Avalon and Lawrenceville – are located near historic major sources.¹³ All five of these monitors are listed as representing a “neighborhood scale” area¹⁴ as defined in Appendix D.¹⁵ Although this approach appears to place a premium on siting monitors near major sources of SO₂, it fails to accomplish the monitoring objectives set forth in 40 C.F.R. Part 58, Appendix D, despite exceeding the minimum number of monitors required. Specifically, additional SO₂ monitoring is needed to assess emissions produced by the Cheswick Power Station (“Cheswick”). In addition, the monitoring scales and objectives listed in the Draft Plan for SO₂ monitors that are located downwind of major stationary sources that have been shut down should be revised to reflect their current use as area-wide, rather than neighborhood scale, monitors.¹⁶

¹² Ball & Anderson, *supra*, § 2.3.2.

¹³ ACHD’s SO₂ monitor in Liberty Borough is downwind from U.S. Steel’s Clairton and Irvin Works; ACHD’s SO₂ monitor in North Braddock is downwind from U.S. Steel’s J. Edgar Thomson Works; ACHD’s SO₂ monitor in Lawrenceville is downwind from Bay Valley Foods’ facility on the North Side (emissions data in Exhibit A indicate that Bay Valley Foods was a major source of SO₂ 2011-2013 but not 2014-2015); and ACHD’s SO₂ monitor in Avalon is downwind from the (former) Shenango Coke facility (emissions data in Exhibit A indicate that Shenango Coke was a major source 2011-2015 but has since ceased operations).

¹⁴ Allegheny County Health Department, *Air Network Monitoring Plan for 2018*, at 30, 35, 42, 48 and 54 (2017).

¹⁵ Neighborhood scale “[d]efines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range. The neighborhood and urban scales listed below have the potential to overlap in applications that concern secondarily formed or homogeneously distributed air pollutants.” 40 C.F.R. Part 58, App. D § 1.2(b)(3).

¹⁶ *Id.* See also 40 C.F.R. Part 58, App. D Table D-1. Using the guidelines from § 1.2(b)(3) and assuming that the maximum “4.0 kilometers range” means distance radially from a monitor site, five such sites would only cover 25 km² around the five specific sites. Either ACHD is monitoring five distinct sources with no area-wide characterization or there is some sort of typographical error in the Draft Plan. For additional visual clarity, see also Allegheny County Health Department, *2015 Five-Year Monitoring Network Assessment*, at 69-71 (2015). For excerpt of pages referenced here, see *attached* Exhibit B.

A. An SO₂ Monitor Must Be Installed Downwind From Cheswick

In 2015, the most recent year for which emissions data is reported on the Pennsylvania Department of Environmental Protection's ("DEP") eFACTS website, Cheswick emitted over 1,690 tons of SO₂.¹⁷ That made it the largest stationary source of SO₂ in Allegheny County in 2015, even after the installation of its flue gas desulfurization system. In fact, Cheswick has been the County's largest single stationary source of SO₂, for the past five years¹⁸ but ACHD does not monitor concentrations of SO₂ in the immediate downwind vicinity of Cheswick; all SO₂ monitors in ACHD's network are located upwind.¹⁹ The nearest downwind SO₂ monitor (which is operated by DEP) is in Strongstown, on the eastern edge of Indiana County, approximately fifty miles from Cheswick.²⁰

ACHD's choice to comply with the Data Requirements Rule for the 2010 SO₂ NAAQS²¹ by using air quality modeling to characterize 1-hour concentrations of SO₂ downwind of Cheswick does not excuse the need to install and operate an SO₂ monitor downwind of Cheswick. As noted above, every other major source of SO₂ in Allegheny County has an SO₂ monitor located nearby and downwind. Presumably, these monitors are operated at least in part to ensure that the ambient air in areas near those facilities actually attains the NAAQS for SO₂

¹⁷ See attached Exhibit A.

¹⁸ *Id.*

¹⁹ 2015 Five-Year Monitoring Network Assessment, *supra* at 100. Although the river valleys play a role in the specific wind patterns in Allegheny County, the prevailing wind direction is out of the southwest. For excerpt of pages referenced here, see attached Exhibit C.

²⁰ Pennsylvania Department of Environmental Protection, 2016 Annual Ambient Air Monitoring Network Plan, at 9-11 (2017 revision). For excerpt of pages referenced here, see attached Exhibit D. The full version of this document is available online: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-115998/Final%202016%20PA%20Annual%20Monitoring%20Network%20Plan.pdf>.

²¹ The final Data Requirements Rule was published at 80 Fed. Reg. 51052 (Aug. 21, 2015). Cheswick appears to be the only source in Allegheny County to which the Data Requirements Rule applies because it is not located in a designated non-attainment area and had actual SO₂ emissions of more than 2,000 tons (in 2014). See 40 C.F.R. § 51.1200 (defining "Applicable source").

despite the facilities' significant SO₂ emissions. Cheswick's SO₂ emissions must be monitored in a similar fashion.

Ground-level concentrations of SO₂ emitted by Cheswick are likely to be greatest to the east and northeast of Cheswick, on the hilltops across the Allegheny River in Plum Township. Indeed, "Short-Term Test Modeling" results of SO₂ concentrations in the vicinity of Cheswick that ACHD provided to GASP in response to a records request indicate that the concentration of SO₂ in the areas around Cheswick is likely to exceed the one-hour SO₂ standard of 75 ppb.²² This means that there is no monitor installed and operated to ensure that the SO₂ emitted by Cheswick does not cause ground-level concentrations of SO₂ to exceed the NAAQS for SO₂ in inhabited, immediately downwind areas to the facility.

Most importantly, the Draft Plan's lack of a Cheswick monitor means that ACHD cannot provide timely air pollution data to the public, a clear and unambiguous objective of a well-designed monitoring network.²³ An SO₂ monitor can provide such data, and is thus necessary to protect public health.

B. The SO₂ Monitor Descriptions Must Be Changed to Match the Monitoring Objectives or Additional Changes to the Monitoring Network May Be Needed

As noted above, all five SO₂ monitors in the Draft Plan are designated as "neighborhood scale" monitors. To the extent that the North Braddock and Liberty monitors exist to characterize emissions from sources in the Liberty-Clairton non-attainment area, the "neighborhood" designation matches the Appendix D guidelines.²⁴ However, the most recent

²² See attached Exhibit E, Cheswick SO₂ Short-Term Test Modeling.

²³ Office of Air Quality Planning and Standards, *supra*, § 6.0.

²⁴ 40 C.F.R. Part 58, App. D § 1.2(b)(3) and App. D. Table D-1.

emissions data²⁵ suggest that there are no major sources of SO₂ to monitor within four kilometers of the Avalon, Lawrenceville, and South Fayette sites. That being the case, the neighborhood designation makes little sense for those monitors. The monitors should be re-designated as area-wide monitors.

Alternatively, if ACHD wishes to continue to operate these monitors as neighborhood monitors, it should re-locate one or more of them to Cheswick or Glassport, as this would likely provide more useful data regarding SO₂ pollution levels in Allegheny County.

II. Particulate Matter Monitoring

“In the last 20 years [particulate matter] has reemerged as the dominant issue in the air pollution community, overtaking [ozone], as the pressing air pollution health issue.”²⁶ Accordingly, ACHD has created a monitoring network for particulate matter that largely appears to address these growing health concerns as well as the need for additional research and NAAQS compliance.^{27, 28} Maintaining and expanding the County’s particulate matter network is vital to protecting the health of Allegheny County’s residents.

However, there are two areas of concern threatening ACHD’s ability to continue its protection of the local population. First, ACHD-supported research recently established a significant spatial variation in concentrations of particulate matter less than 2.5 microns in

²⁵ See attached Exhibit A.

²⁶ Curtis D. Klaassen, ed., *Toxicology: The Basic Science of Poisons*, at 1253 (8th ed. 2013).

²⁷ *Air Network Monitoring Plan for 2018*, *supra* at 16-17. See also *Air Network Monitoring Plan for 2018*, *supra* at 6 (an example of ACHD’s particulate matter network adopting to new threats was the termination of the PM₁₀ monitor at Avalon, a pollutant for which Allegheny County is in attainment, and its replacement with a continuous PM_{2.5} monitor, a pollutant for which Allegheny is designated non-attainment).

²⁸ See attached Exhibit F showing the top ten emissions sources for PM_{2.5} in 2015, the most recent year for which data is available. PM_{2.5} monitors listed in the Draft Plan are adjacent to all major sources of PM_{2.5} in the County.

diameter (“PM_{2.5}”) in Downtown Pittsburgh.²⁹ This shows a need to monitor exposures to the tens of thousands of people that pass through Downtown daily. Second, ACHD’s ability to conduct even its current level of PM_{2.5} monitoring in the future is at risk due to a significant proposed cut to US EPA’s budget.

A. ACHD Must Continue its Involvement With or Outright Lead Downtown Pittsburgh PM_{2.5} Monitoring Efforts

An air toxics study performed between 2005 and 2008 for ACHD by researchers from Carnegie Mellon University determined that a “hotspot” for diesel particulate matter in the ambient air exists in Downtown Pittsburgh.³⁰ The study concluded that concentrations of diesel particulate matter in Downtown’s ambient air were high enough that they pose a statistically significant cancer risk.³¹ As a follow up, ACHD, in conjunction with the University of Pittsburgh’s Graduate School of Public Health, conducted a second study focused on characterizing diesel emissions in Downtown Pittsburgh.³² This second study showed unhealthy levels of PM_{2.5} present at street level Downtown, most likely as the result of heavy bus traffic, and that concentrations in the “downtown canyons” can vary significantly over very short distances.³³

ACHD should install a SLAMS or special purpose monitor for PM_{2.5} at street level in Downtown Pittsburgh to ensure that all areas of the County, including Downtown Pittsburgh, attain the NAAQS for PM_{2.5}. Such a monitor would also help inform additional needed control

²⁹ Brett J. Tunno et al, *Characterizing Spatial Variation in Diesel Particulate Matter Across Downtown Pittsburgh* (2016).

³⁰ Allen Robinson, et al., *Air Toxics in Allegheny County: Sources, Airborne Concentrations, and Human Exposure*, ACHD Agreement # 36946 (March 2009).

³¹ *Id.*

³² Tunno et al, *supra*.

³³ *Id.*

measures if the NAAQS are not being attained. The existing monitor at Flag Plaza is not well situated to measure the localized pollution concentrations of PM_{2.5} that exist Downtown due to the heavy bus traffic and densely-packed tall buildings that are present downtown.

B. ACHD Should Clarify the Threat EPA's Proposed Budget Cuts Pose to its Continued Ability to Effectively Monitor PM_{2.5}

Although the budget for an air monitoring network is never a part of a monitoring plan, the potential impacts of proposed cuts to EPA's grant funding for state and local agency air monitoring programs must be addressed in the Draft Plan. Nationwide, the EPA is proposing to slash \$68,335,000.00, equivalent to a 30% reduction from FY 2017, from its funding of State and Local Air Quality Management Categorical Grants.³⁴ One method by which the EPA proposes to reach this 30% funding reduction will be to "transition the funding of the PM_{2.5} monitoring network from Section 103 authority of the CAA, which provides 100 percent federal funding, to Section 105 authority of the CAA, which provides a maximum federal share of 60 percent."³⁵ If approved, this means ACHD could be facing a minimum of a 40% reduction in EPA's financial support for ACHD's PM_{2.5} monitoring activities. Because the proposed EPA budget could substantially alter ACHD's ability to fulfill its monitoring duties in the Draft Plan, ACHD should add an addendum to the Draft Plan to show the public how it plans to maintain its PM_{2.5} monitoring network should such cuts to funding come to pass.

³⁴ United States Environmental Protection Agency, *FY 2018 EPA Budget in Brief*, at 69 (U.S.E.P.A Pub. No. EPA-190-K-17-001) (2017). For excerpt of pages referenced here, see attached Exhibit G. The full version of this document is available online: <https://www.epa.gov/sites/production/files/2017-05/documents/fy-2018-budget-in-brief.pdf>.

³⁵ United States Environmental Protection Agency, *Fiscal Year 2018 Justification of Appropriation Estimates for the Committee on Appropriations*, at 483 (U.S.E.P.A Pub. No. EPA-190-K-17-002) (2017). For excerpt of pages referenced here, see attached Exhibit H. The full version of this document is available online: <https://www.epa.gov/sites/production/files/2017-05/documents/fy-2018-congressional-justification.pdf>.

III. Special Purpose Monitoring

To the extent practicable, ACHD should continue with all additional monitoring that it conducts voluntarily in response to concerns raised by the public.³⁶ These additional projects and the public information they generate are indispensable to protecting public health. In particular, termination of the Lawrenceville Toxic Metals Study³⁷ would be especially troublesome. As the attached graph indicates,³⁸ the special purpose monitor at this site continues to show unexplained spikes of manganese. In addition, the one-year average, which had been declining over the past few years, has begun to level off. Over the past several months, the Study data has also shown a steady rise in chromium concentrations.³⁹ These trends would be concerning at any facility but this is made all the worse by the fact that McConway & Torley still does not have an operating permit, which would address facility-wide emissions.⁴⁰ Although proper public notice may not be feasible for all of ACHD's Special Study Projects monitors, ACHD should at least guarantee that this study will continue into the foreseeable future. In addition, ACHD should guarantee that it will properly notice and take comment on any proposed alterations to the monitoring program.

³⁶ This includes all Special Studies Projects listed in Appendix "A" of the Draft Plan. See *Air Network Monitoring Plan for 2018*, *supra* at 70-73.

³⁷ The most recent report can be found online: http://www.achd.net/air/pubs/pdf/052317_LawrencevilleToxicMetals.pdf.

³⁸ See attached Exhibit J. The data plotted here is taken from the most recent Metals Study report (*supra*).

³⁹ See attached Exhibit K. The data plotted here is taken from the most recent Metals Study report (*supra*).

⁴⁰ The most recent draft of the operating permit was issued in March 2015. There has been no publicly noticed revisions to that draft or action on the original draft since that time.

Exhibit A

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Facility Emissions Report

Year: **2011**
County: **Allegheny**
Pollutant: **Sulfur Oxides**
Top Records: **10**

Primary Facility ID	Primary Facility Name	Tons/Year
737442	NRG MIDWEST LP/CHESWICK	9290.3083
737439	USS/CLAIRTON WORKS	1467.5136
737436	USS CORP/EDGAR THOMSON WORKS	1279.0017
737318	US STEEL CORP/IRVIN PLT	418.6888
737435	SHENANGO INC/SHENANGO COKE PLT	371.6533
737263	BAY VALLEY FOODS LLC/PGH	313.17
737350	GUARDIAN IND CORP/JEFFERSON HILLS	73.2626
737323	REDLAND BRICK INC/HARMAR PLT	42.073
737434	ALLEGHENY LUDLUM LLC/BRACKENRIDGE	32.7
737336	ALLIED WASTE SVC OF PA/MSW LDFL	18.5144

Total Emissions for Selected Records: 13306.8900

Total Emissions for Selected Area: 13392.7000

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Facility Emissions Report

Year: **2012**

County: **Allegheny**

Pollutant: **Sulfur Oxides**

Top Records: **10**

Primary Facility ID	Primary Facility Name	Tons/Year
737442	NRG MIDWEST LP/CHESWICK	1910.8427
737439	USS/CLAIRTON WORKS	1742.2268
737436	USS CORP/EDGAR THOMSON WORKS	1430.7219
737318	US STEEL CORP/IRVIN PLT	635.1116
737263	BAY VALLEY FOODS LLC/PGH	268.2219
737435	SHENANGO INC/SHENANGO COKE PLT	254.6068
737350	GUARDIAN IND CORP/JEFFERSON HILLS	82.6771
737434	ALLEGHENY LUDLUM LLC/BRACKENRIDGE	31.8
737323	REDLAND BRICK INC/HARMAR PLT	28.216
737336	ALLIED WASTE SVC OF PA/MSW LDFL	15.41

Total Emissions for Selected Records: 6399.8340

Total Emissions for Selected Area: 6477.8990

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Facility Emissions Report

Year: **2013**

County: **Allegheny**

Pollutant: **Sulfur Oxides**

Top Records: **10**

Primary Facility ID	Primary Facility Name	Tons/Year
737442	NRG MIDWEST LP/CHESWICK	1686.3993
737439	USS/CLAIRTON WORKS	1637.1483
737436	USS CORP/EDGAR THOMSON WORKS	1454.0281
737318	US STEEL CORP/IRVIN PLT	507.4236
737435	SHENANGO INC/SHENANGO COKE PLT	285.1264
737263	BAY VALLEY FOODS LLC/PGH	208.7961
737350	GUARDIAN IND CORP/JEFFERSON HILLS	70.3772
737434	ALLEGHENY LUDLUM LLC/BRACKENRIDGE	31
737336	ALLIED WASTE SVC OF PA/MSW LDFL	18.932
737323	REDLAND BRICK INC/HARMAR PLT	15.8

Total Emissions for Selected Records: 5915.0310

Total Emissions for Selected Area: 5970.5630

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Facility Emissions Report

Year: **2014**

County: **Allegheny**

Pollutant: **Sulfur Oxides**

Top Records: **10**

Primary Facility ID	Primary Facility Name	Tons/Year
737442	NRG MIDWEST LP/CHESWICK	4445.4142
737439	USS/CLAIRTON WORKS	1511.7339
737436	USS CORP/EDGAR THOMSON WORKS	1329.0207
737318	US STEEL CORP/IRVIN PLT	715.9371
737435	SHENANGO INC/SHENANGO COKE PLT	275.8858
737350	GUARDIAN IND CORP/JEFFERSON HILLS	108.8668
737434	ALLEGHENY LUDLUM LLC/BRACKENRIDGE	33.7
737323	REDLAND BRICK INC/HARMAR PLT	30.86
737336	ALLIED WASTE SVC OF PA/MSW LDFL	17.6921
737263	BAY VALLEY FOODS LLC/PGH	12.751

Total Emissions for Selected Records: 8481.8620

Total Emissions for Selected Area: 8528.7540

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Facility Emissions Report

Year: **2015**
County: **Allegheny**
Pollutant: **Sulfur Oxides**
Top Records: **10**

Primary Facility ID	Primary Facility Name	Tons/Year
737442	NRG MIDWEST LP/CHESWICK	1690.1639
737436	USS CORP/EDGAR THOMSON WORKS	1357.1297
737439	USS/CLAIRTON WORKS	1250.115
737318	US STEEL CORP/IRVIN PLT	406.446
737435	SHENANGO INC/SHENANGO COKE PLT	331.8324
737350	GUARDIAN IND CORP/JEFFERSON HILLS	57.3109
737323	REDLAND BRICK INC/HARMAR PLT	35.79
737434	ALLEGHENY LUDLUM LLC/BRACKENRIDGE	28.5
737336	ALLIED WASTE SVC OF PA/MSW LDFL	17.7306
737364	ALLEGHENY ENERGY SUPPLY/SPRINGDALE	8.03

Total Emissions for Selected Records: 5183.0480

Total Emissions for Selected Area: 5214.4470

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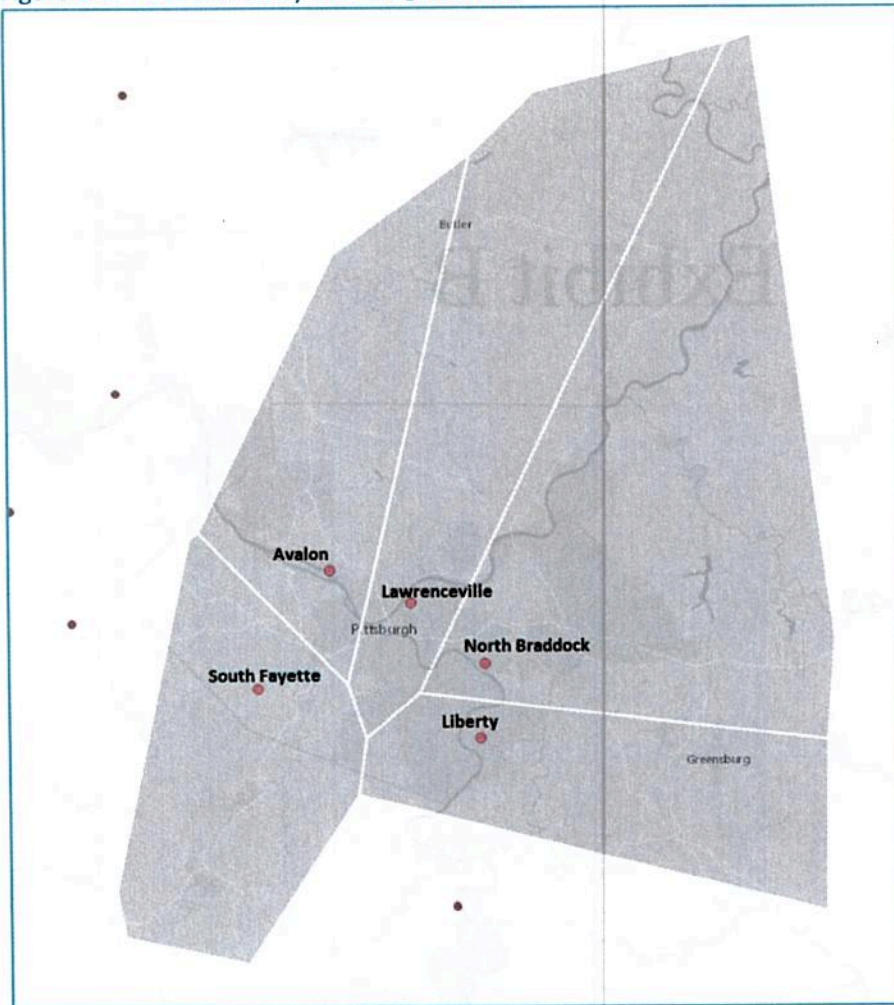
Exhibit B

8. Sulfur Dioxide (SO₂) Analysis

8.1. Area Served

Area served polygons are displayed below in Figure 8-1. Demographics for each area are displayed in Table 8-1 on the following page. Figure 8-2, also on the following page, displays the area served polygons for the Pittsburgh CBSA. Allegheny County sites are labeled.

Figure 8-1. Area Served by 2014 SO₂ Network

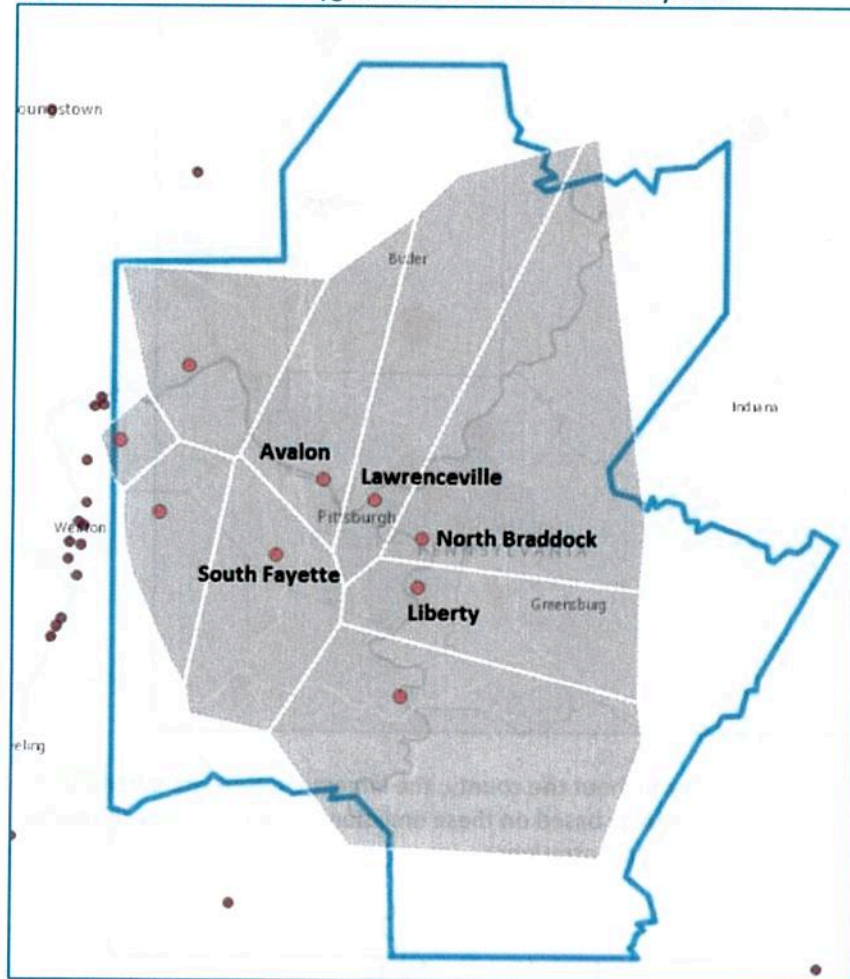


The South Fayette SO₂ monitor measures regional transport and background concentrations. Avalon, North Braddock, and Liberty are near industrial sources. The North Braddock and Liberty monitors are also in the Allegheny SO₂ Nonattainment Area. The Lawrenceville monitor serves the urban area in the City of Pittsburgh.

Table 8-1. Area Served Demographics

AQS Site ID	Site Name	Total Population	Area- Miles ²
42-003-0002	Avalon	330,875	314
42-003-0008	Lawrenceville	487,295	474
42-003-0064	Liberty	258,266	333
42-003-0067	South Fayette	241,820	347
42-003-1301	North Braddock	462,369	807

Figure 8-2. Area Served Polygons for Southwestern Pennsylvania

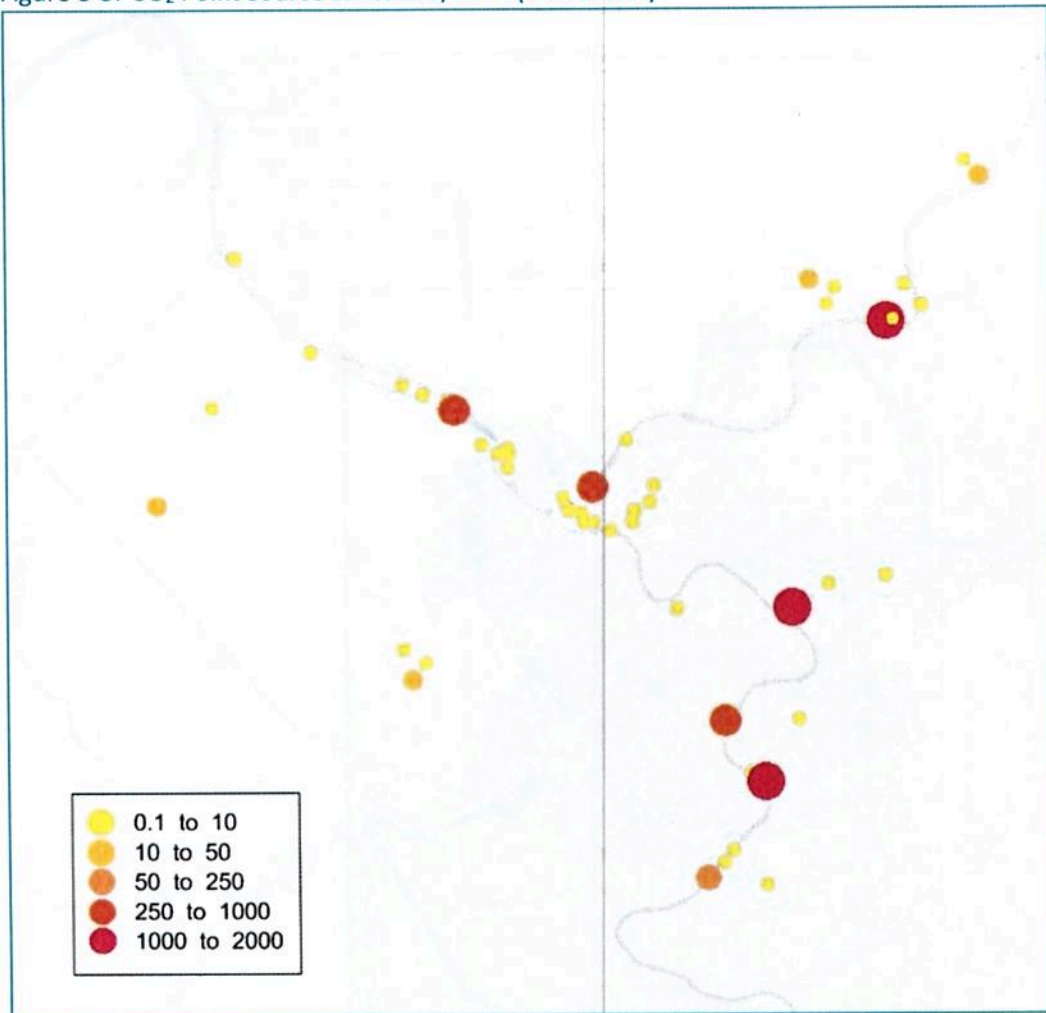


ACHD operates five monitors in the county. PA DEP operates four additional SO₂ monitors in the Pittsburgh CBSA.

8.2. Emissions

Figure 8-3 shows point source SO₂ emissions for Allegheny County sources, based on the 2012 emissions inventory.

Figure 8-3. SO₂ Point Source Emissions, 2012 (tons actual)

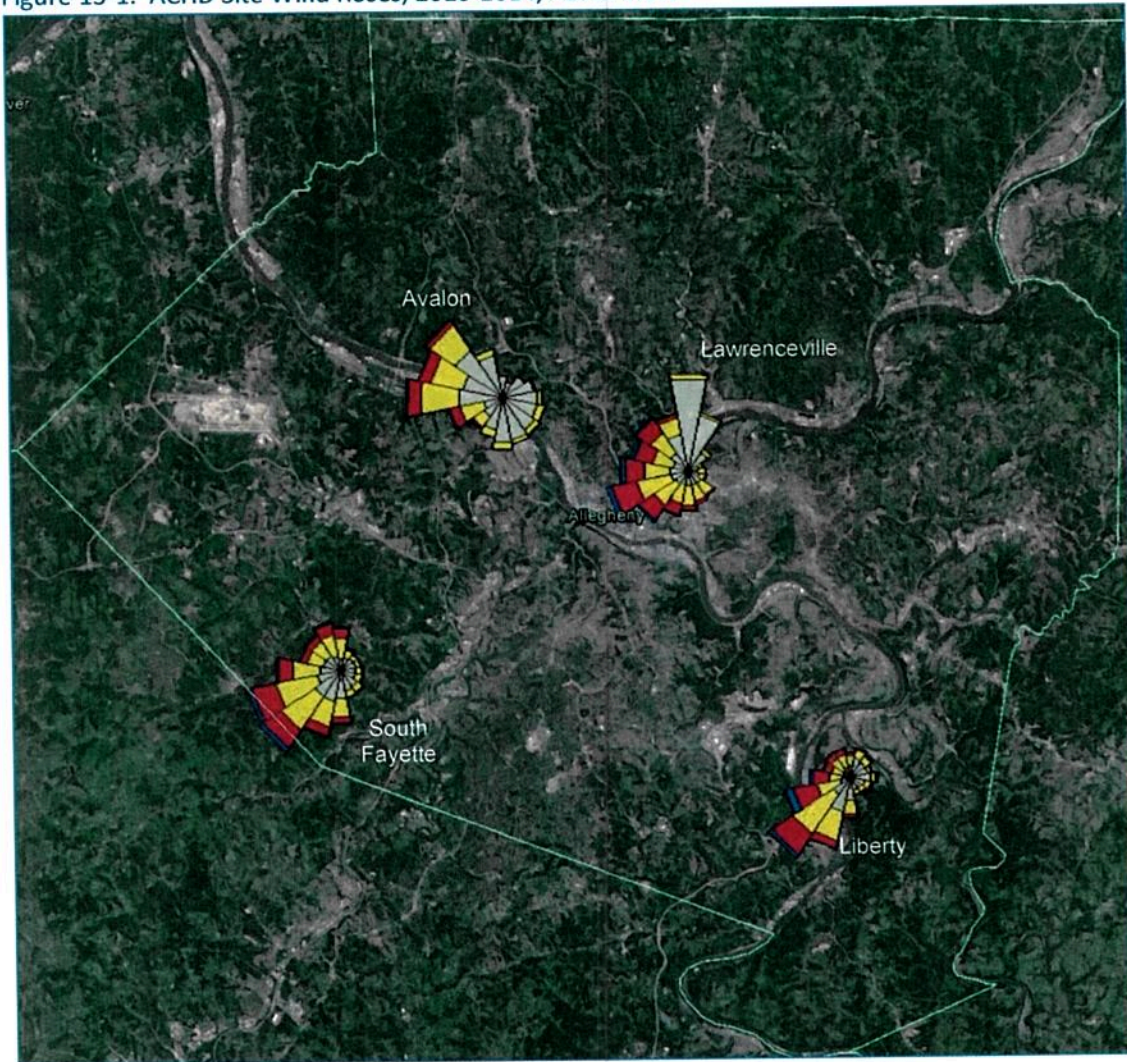


While some smaller SO₂ sources are spread throughout the county, the largest emitters are a handful of point sources. The 2010 designations were partially based on these emissions. Monitors sites have also been based on areas with the largest potential concentrations.

Exhibit C

Figure 13-1 below shows wind roses by local ACHD site in Google Earth. Wind roses indicate frequencies of hourly wind direction and wind speed.

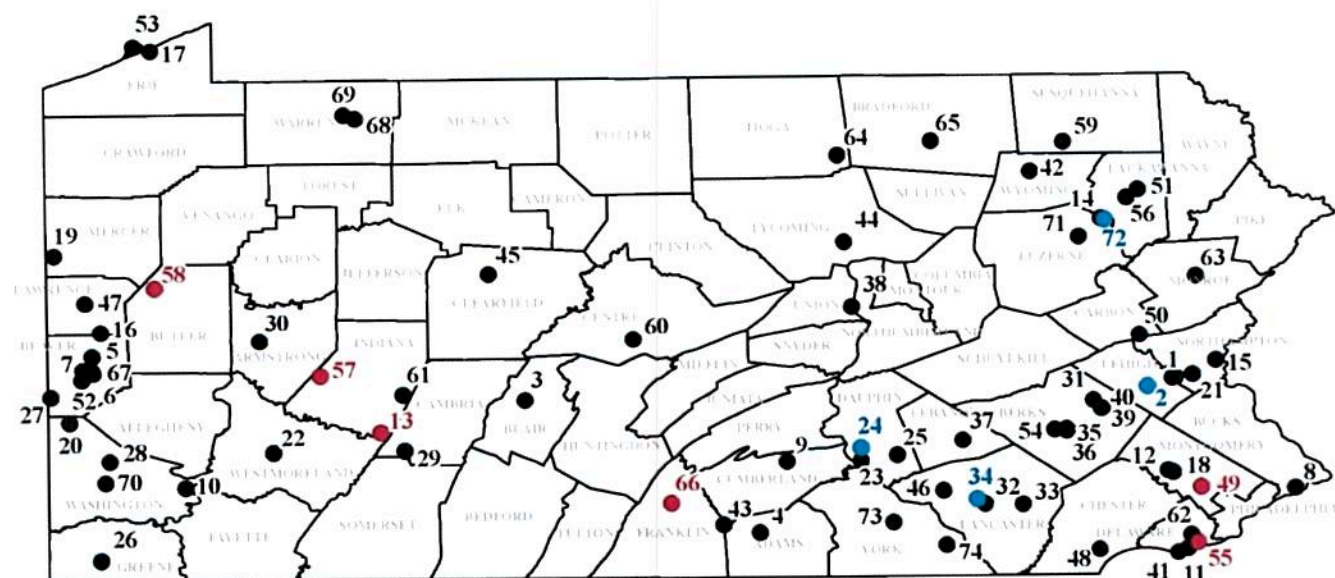
Figure 13-1. ACHD Site Wind Roses, 2010-2014, Aerial View



Note: Wind roses shown here are based on wind data from 2010-2014, generated by the WRPLOT program.

Exhibit D

Figure 3. Map of PA DEP Air Monitoring Network



Legend: **RED** – Site will be discontinued in 2016-2017; **BLUE** – Site to be added in 2016-2017

Map ID	Site Name	Map ID	Site Name	Map ID	Site Name	Map ID	Site Name
1	Allentown	21	Freemansburg	41	Marcus Hook	61	Strongstown
2	Allentown Near-road	22	Greensburg	42	Mehoopany	62	Swarthmore
3	Altoona	23	Harrisburg	43	Methodist Hill	63	Swiftwater
4	Arendtsville	24	Harrisburg Near-road	44	Montoursville	64	Tioga County
5	Beaver Falls	25	Hershey	45	Moshannon	65	Towanda
6	Beaver Valley	26	Holbrook	46	Mt Joy	66	Upper Strasburg
7	Brighton Twp	27	Hookstown	47	New Castle	67	Vanport
8	Bristol	28	Houston	48	New Garden	68	Warren East
9	Carlisle	29	Johnstown	49	Norristown	69	Warren Overlook
10	Charleroi	30	Kittanning	50	Palmerton	70	Washington
11	Chester	31	Kutztown	51	Peckville	71	Wilkes Barre
12	Collegeville	32	Lancaster	52	Potter Township	72	Wilkes Barre Near-road
13	Conemaugh	33	Lancaster Downwind	53	Presque Isle	73	York
14	Duryea	34	Lancaster Near-road	54	Reading Airport	74	York Downwind
15	Easton	35	Laureldale North	55	Ridley Park	---	Clarion County
16	Ellwood City	36	Laureldale South	56	Scranton	---	Fayette County
17	Erie	37	Lebanon	57	Shelocta	---	Indiana County
18	Evansburg United Methodist	38	Lewisburg	58	Slippery Rock	---	Jefferson County
19	Farrell	39	Lyons Boro	59	Springville	---	Lycoming County
20	Florence	40	Lyons Park	60	State College	---	McKean County

PA DEP'S 2016 ANNUAL AMBIENT AIR MONITORING NETWORK PLAN

Table 3. PA DEP Air Monitoring Network Sites and Parameters Monitored

Site Name	Criteria Pollutants								Non-criteria	Air Toxics			
	Ozone	Sulfur Dioxide	Nitrogen Dioxide	Carbon Monoxide	PM _{2.5}	PM _{2.5} Speciation	PM ₁₀	Lead	H ₂ S	VOC	Carbonyls	Metals	Mercury
Allentown	X				X		X						
Allentown (NR)			(add)										
Altoona	X	X			X		X						
Arendtsville	X	X	X	X	X					X	X		
Beaver Falls	X		X		X		X			(disc)			
Beaver Valley								X		(add)		X	
Brighton Twp	X	X											
Bristol	X	(disc)											
Carlisle					X								
Charleroi	X	X	X		X					X			
Chester	X	X	X		X	X		X		X		X	
Collegeville										X			
Conemaugh (disc)								(disc)					
Duryea								X					
Easton	X	X							X				
Ellwood City								X				X	
Erie	X	(disc)	X	X	X	X	X						
Evansburg United Methodist										X			
Farrell	X				X								
Florence	X	X			X	X							
Freemansburg	X		X		X	(disc)				(disc)			
Greensburg	X				X	X				X			
Harrisburg	X				X								
Harrisburg (NR)			(add)										
Hershey	X						X						
Holbrook	X	(disc)			X								
Hookstown	X	X											
Houston			X							X	X		
Johnstown	X	X	X	X	X	X	X						
Kittanning	X				X								
Kutztown	X												
Lancaster	X				X	X	X			X	X	X	X
Lancaster (NR)			(add)										
Lancaster Downwind	X				X	(add)							
Laureldale North								X					
Laureldale South								X					
Lebanon	X				X								
Lewisburg										X		X	
Lyons Boro								X					
Lyons Park								X					
Marcus Hook					X	X				X			
Mehoopany					(add)					X			

PA DEP's 2016 ANNUAL AMBIENT AIR MONITORING NETWORK PLAN

Table 3. PA DEP Air Monitoring Network Sites and Parameters Monitored (cont.)

Site Name	Criteria Pollutants								Non-criteria	Air Toxics			
	Ozone	Sulfur Dioxide	Nitrogen Dioxide	Carbon Monoxide	PM _{2.5}	PM _{2.5} Speciation	PM ₁₀	Lead	H ₂ S	VOC	Carbonyls	Metals	Mercury
Methodist Hill	X												
Montoursville	X						X						
Moshannon	X												
Mt Joy								X					
New Castle	X	X											
New Garden	X				X	X							
Norristown (disc)	(disc)	(disc)											
Palmerton								X					
Peckville	X												
Potter Township								X					
Presque Isle										X		X	
Reading Airport	X	X			X					X		X	
Ridley Park (disc)								(disc)					
Scranton	X		X	X	X								
Shelocta (disc)								(disc)					
Slippery Rock (disc)										(disc)		(disc)	
Springville					(add)					X			
State College	X	X	X		X								
Strongstown	X	X											
Swarthmore										X		X	
Swiftwater	X				X								
Tioga County	X		X		X								
Towanda	X		X		X								
Upper Strasburg (disc)								(disc)					
Vanport								X					
Warren East		X							X				
Warren Overlook		X											
Washington	X				X								
Wilkes Barre	X	X					X						
Wilkes Barre (NR)			(add)										
York	X	X	X	X	X					X			
York Downwind	X												
Clarion County					(add)								
Fayette County					(add)								
Indiana County					(add)								
Jefferson County					(add)								
Lycoming County					(add)								
McKean County					(add)								
Totals	41	17	17	5	37	9	9	12	2	17	3	8	1

(disc) = Site/Monitor will be discontinued in 2016-2017 (add) = Site/Monitor will be added in 2016-2017

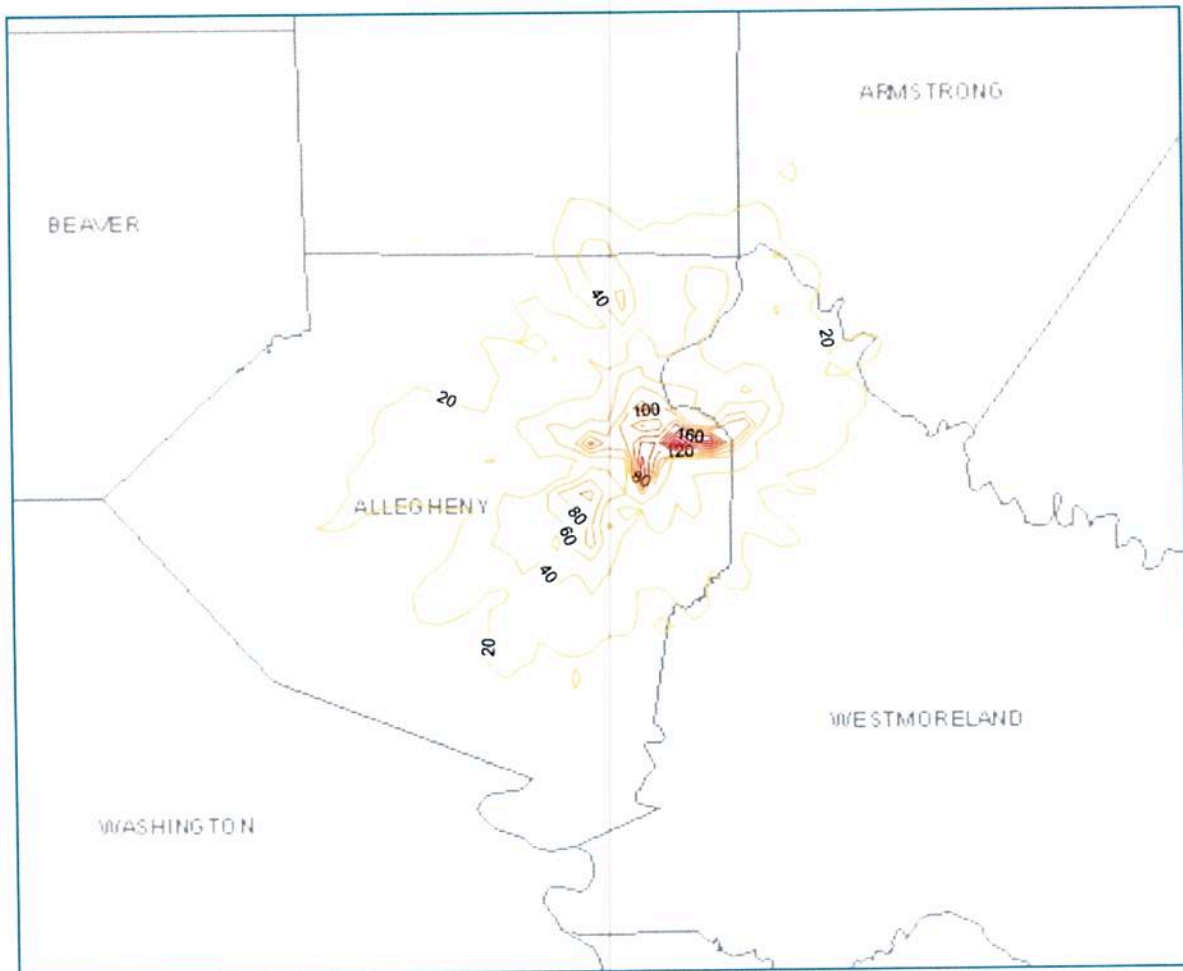
(NR) = NO₂ Near-road site. U.S. EPA has proposed to remove the requirement for these monitoring sites (see the "Near-road NO₂ Site Installation Plan" section of this document)

Exhibit E

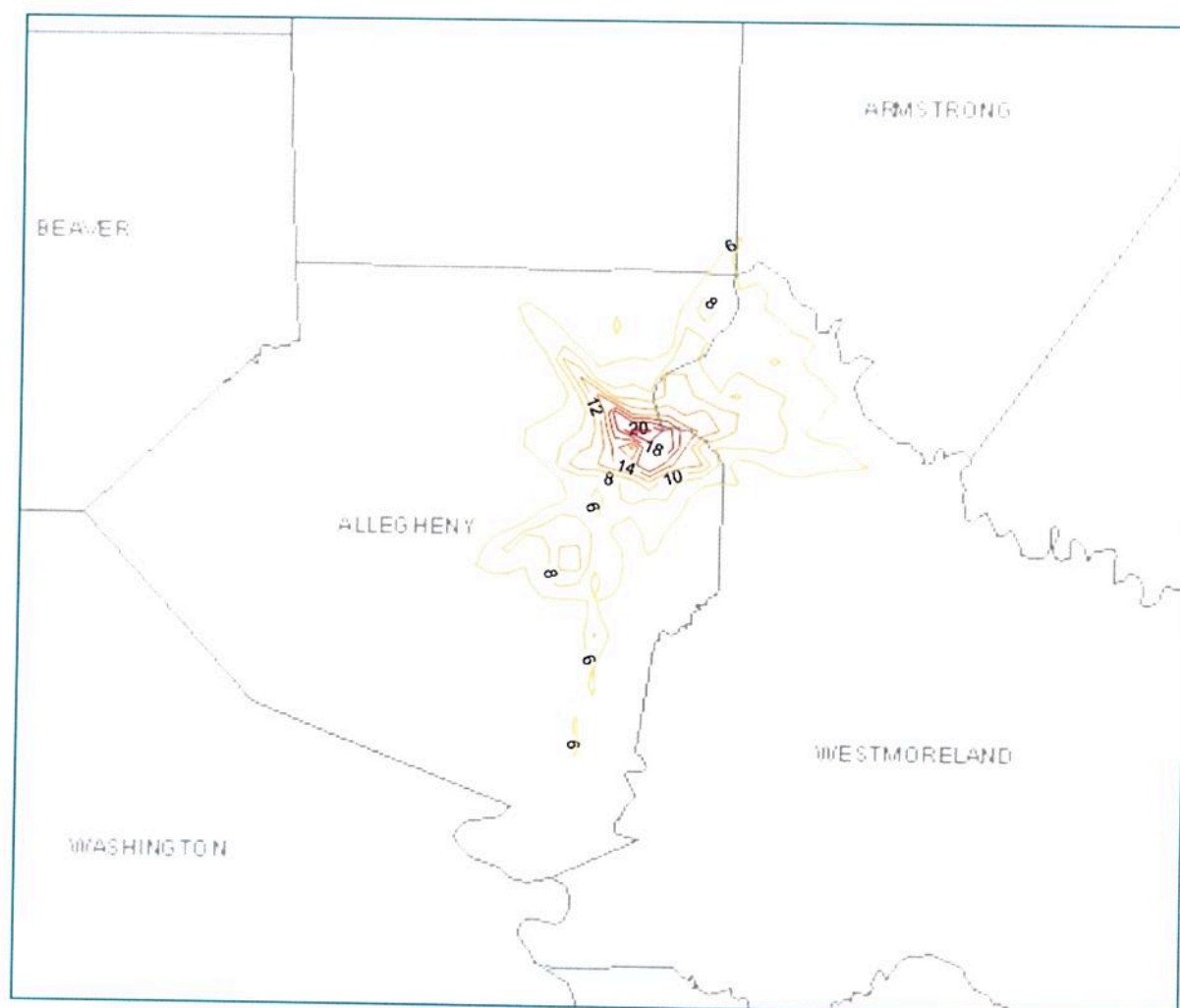
Cheswick SO2 Short-Term Test Modeling

CALPUFF model results
2002 meteorology from PIT, AGC, MM5
1 km gridded receptor spacing
FGD stack height = 552 ft
Emissions based on preliminary 2010 totals

Cheswick Maximum 1-Hr SO2 Impacts, ppb (max = 240 ppb)



Cheswick Maximum 24-Hr SO₂ Impacts, ppb (max = 23 ppb)



Cheswick Maximum Annual SO₂ Impacts, ppb (max = 2.5 ppb)

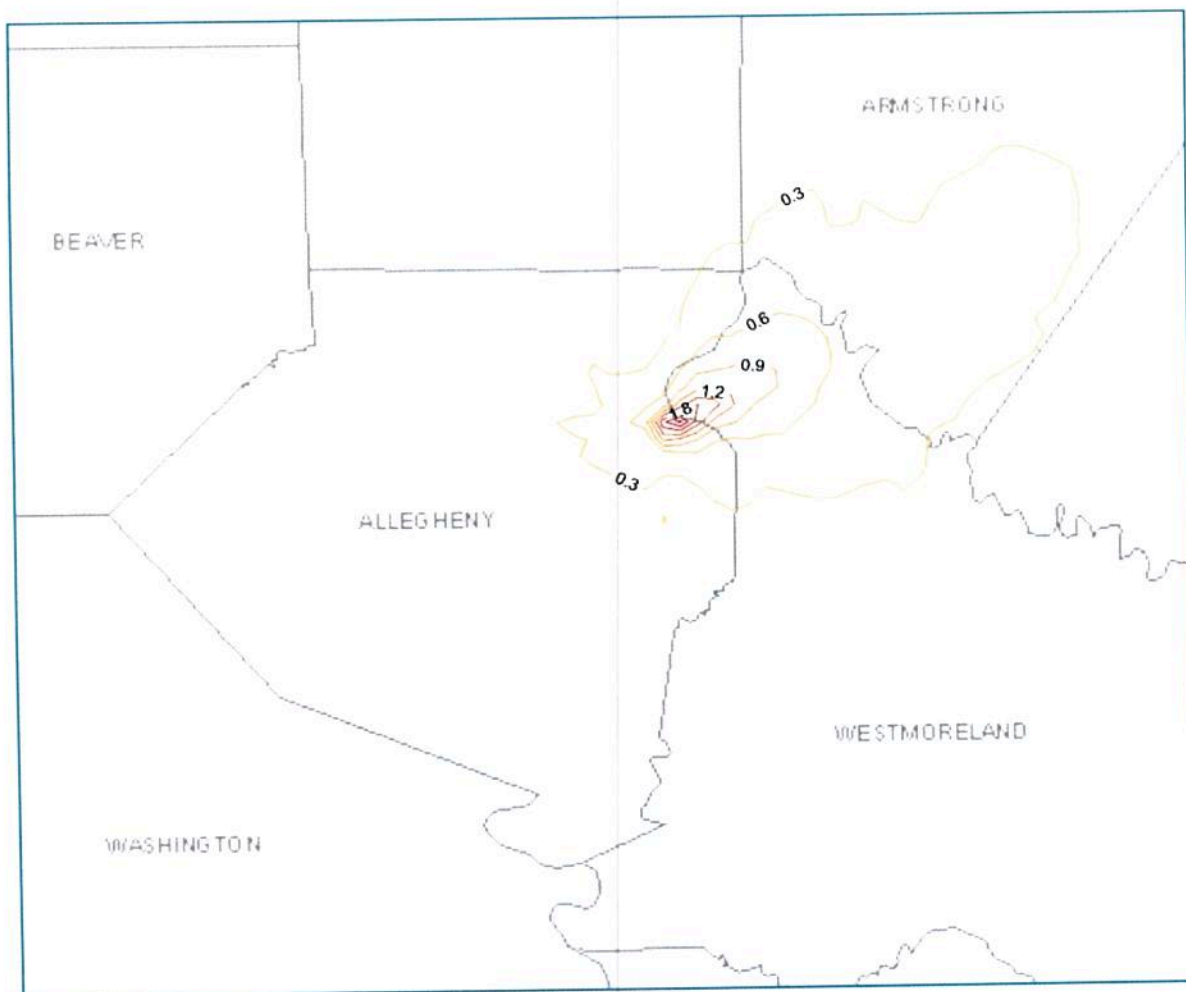


Exhibit F

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Facility Emissions Report

Year: **2015**County: **Allegheny**Pollutant: **Particulate Matter < 2.5 Microns**Top Records: **10**

Primary Facility ID	Primary Facility Name	Tons/Year
737439	USS/CLAIRTON WORKS	342.9814
737434	ALLEGHENY LUDLUM LLC/BRACKENRIDGE	85.3
737436	USS CORP/EDGAR THOMSON WORKS	70.8872
737442	NRG MIDWEST LP/CHESWICK	51.6762
737435	SHENANGO INC/SHENANGO COKE PLT	45.0263
737336	ALLIED WASTE SVC OF PA/MSW LDFL	39.9893
737259	LIBERTAS COPPER LLC/LEETSDALE	35.0446
737364	ALLEGHENY ENERGY SUPPLY/SPRINGDALE	27.72
737318	US STEEL CORP/IRVIN PLT	23.341
744880	MATTHEWS INTL BRONZE DIV/PGH	12.7279

Total Emissions for Selected Records: **734.6939**Total Emissions for Selected Area: **841.0417**[Run report again](#)

Exhibit G

Categorical Grants

In FY 2018, the following categorical grant funding levels are adjusted in line with the broader strategy of streamlining environmental protection. This funding is focused on the EPA's core statutory requirements. The EPA will continue to offer flexibility to state and Tribal governments to manage their environmental programs as well as provide technical and financial assistance to achieve mutual environmental goals.

Hazardous Waste Financial Assistance

(FY 2017 Annualized CR: \$99.503 M; FY 2018 PB: \$69.652 M, FY 2018 Change: -\$29.851 M)

This grant program provides funding to implement the Resource Conservation and Recovery Act (RCRA). Through RCRA, the EPA and states protect human health and the environment by minimizing waste generation, preventing the release of millions of tons of hazardous wastes, and cleaning up land and water. This change in funding modifies timelines for reaching cleanup milestones, reviewing of facility data, cleanup plans, permit notifications, and assistance to Tribal communities.

Pollution Control (Sec. 106)

(FY 2017 Annualized CR: \$230.367 M; FY PB 2018: \$161.257 M, FY 2018 Change: -\$69.110 M)

This grant program provides federal assistance to states (including territories and the District of Columbia), tribes qualified under Clean Water Act Section 518(e), and interstate agencies to establish and maintain programs for the prevention and control of surface and groundwater pollution from point and nonpoint sources.

Public Water System Supervision

(FY 2017 Annualized CR: \$101.769 M; FY 2018 PB: \$71.238 M, FY 2018 Change: -\$30.531 M)

The program provides grants to states and tribes with primary enforcement authority (primacy) to implement and enforce the National Primary Drinking Water Regulations, as well as to build system capacity.

State and Local Air Quality Management

(FY 2017 Annualized CR: \$227.785 M; FY 2018 PB: \$159.450 M, FY 2018 Change: -\$68.335 M)

This program provides funding for state air programs, as implemented by multi-state, state, and local air pollution control agencies.

Tribal General Assistance Program

(FY 2017 Annualized CR: \$65.352 M; FY 2018 PB: \$45.746 M, FY 2018 Change: -\$19.606 M)

This program provides grants and technical assistance to tribes to cover costs of planning, developing, and establishing tribal environmental protection programs consistent with other applicable provisions of law administered by the EPA. The EPA expects tribes will need to reprioritize their planning and implementation efforts.

Other Major Changes

Homeland Security: Preparedness, Response, and Recovery

(FY 2017 Annualized CR: \$61.213 M; FY 2018 PB: \$39.054 M, FY 2018 Change: -\$22.159 M)

This program helps the EPA lead and support many aspects of preparing for and responding to a nationally significant incident involving possible chemical, biological, radiological, and nuclear (CBRN) agents, as mandated by the Executive Office of the President. In FY 2018 some resources have been restructured to meet EPA's responsibilities as the water Sector-Specific Agency (SSA) implementing specific statutory and Presidential directives relating to homeland security.

Exhibit H

Categorical Grant: State and Local Air Quality Management

Program Area: Categorical Grants

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
<i>State and Tribal Assistance Grants</i>	<i>\$227,533.6</i>	<i>\$227,785.0</i>	<i>\$159,450.0</i>	<i>(\$68,335.0)</i>
Total Budget Authority / Obligations	\$227,533.6	\$227,785.0	\$159,450.0	(\$68,335.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

This program provides funding for state air programs, as implemented by multi-state, state, and local air pollution control agencies. Section 103 of the Clean Air Act (CAA) provides the EPA with the authority to award grants to a variety of agencies, institutions, and organizations, including the air pollution control agencies funded from the STAG appropriation, to conduct and promote certain types of research, investigations, experiments, demonstrations, surveys, studies, and training related to air pollution. Section 105 of the CAA provides the EPA with the authority to award grants to state and local air pollution control agencies to develop and implement continuing environmental programs for the prevention and control of air pollution, for the implementation of National Ambient Air Quality Standards (NAAQS) set to protect public health and the environment, and for improving visibility in our national parks and wilderness areas (Class I areas). The continuing activities, funded under Section 105, include development and implementation of emission reduction measures, development and operation of air quality monitoring networks, and a number of other air program activities. Section 106 of the CAA provides the EPA with the authority to fund interstate air pollution transport commissions to develop or carry out plans for designated air quality control regions.

FY 2018 Activities and Performance Plan:

In FY 2018, states will continue to be responsible for State Implementation Plans (SIPs) which provide a blueprint for the programs and activities that states carry out to attain and maintain the NAAQS and comply with visibility obligations. There are several events that trigger SIP obligations. For example, when the EPA promulgates a new or revises an existing NAAQS, affected states must update certain parts of their SIPs within three years. In addition, whenever EPA completes a designation or reclassification of a nonattainment area for a particular pollutant, an affected state must update their SIP within three years or 18 months, depending on the pollutant. In FY 2018, states will be reviewing their SIPs for implementing ozone standards revised in 2015. Also, affected states will be completing development or revision of attainment SIPs for areas designated nonattainment or reclassified to Serious for the 2006 and/or 2012 fine particle (PM_{2.5}) NAAQS and the 2010 sulfur dioxide (SO₂) NAAQS. States also have SIP obligations associated with visibility requirements, among other requirements identified in the CAA.

States will continue implementing the 2008 and 2015 8-hour ozone NAAQS, the 2008 lead NAAQS, the 2010 1-hour nitrogen dioxide (NO₂) NAAQS, and the 2010 1-hour SO₂ NAAQS. As

appropriate, states also will continue implementing the previous PM_{2.5} and ozone NAAQS, including the 1997 annual and 24-hour PM_{2.5} NAAQS, the 2006 24-hour PM_{2.5} NAAQS, the 2012 annual PM_{2.5} NAAQS, and the 1-hour and 1997 8-hour ozone NAAQS (through anti-backsliding requirements). SIP preparation for some pollutants is complicated due to the regional nature of air pollution that requires additional and more detailed modeling, refined emissions inventories, and greater stakeholder involvement. In FY 2018, states will prioritize activities needed to meet obligations for SIP development and in implementing their plans for the NAAQS and regional haze, adjusting schedules, and identifying streamlining options.

States will operate and maintain their existing monitoring networks at baseline levels. This is typically the largest part of a state's air program, supporting the quality and availability of data that states are required to submit. In 2015, the EPA finalized its review of the ozone NAAQS monitoring requirements, and extended the ozone monitoring season in 33 states and revised monitoring requirements for the Photochemical Assessment Monitoring Stations (PAMS). Any PAMS revised monitoring requirements are required to be operational in 2019. The EPA also finalized the Data Requirements Rule for the 2010 1-hour SO₂ NAAQS and states will continue operating new monitoring networks in certain locations in FY 2018.

The multi-pollutant monitoring site network (NCore) serves multiple objectives such as measuring long-term trends of air pollution, validating models, and providing input to health and atmospheric science studies. The EPA will provide assistance to states to operate this network of approximately 80 stations across the nation. Funding for priority updates to the NCore stations, which provide measurements for particles, including filter-based and continuous mass for PM_{2.5}; chemical speciation for PM_{2.5}; and PM₁₀ - PM_{2.5} mass, will be provided. Stations also measure gases such as carbon monoxide (CO), SO₂, NO₂, and ozone, and record basic meteorology. In FY 2018, the EPA will continue its review of the monitoring requirements supporting the NO₂ NAAQS. States and the EPA will adjust the schedule of any relocation of existing CO and PM_{2.5} monitors where states have asked the EPA to help them address near road environments – a source of concentrated mobile source emissions. Data collected from monitoring sites, implemented under phases 1 and 2 of the near-road monitoring network, will be considered as part of this review for the determination of the appropriate network design.

In FY 2018, states with approved or delegated permitting programs will continue to implement permitting requirements as part of their programs. The EPA will continue to undertake actions required as a result of the Supreme Court's 2014 decision on the EPA's Tailoring Rule as well as the April 2015 D.C. Circuit Amended Judgment implementing the Supreme Court decision.

The development of a complete emission inventory is an important step in an air quality management process. Emission inventories are used to help determine significant sources of air pollutants and establish emission trends over time, target regulatory actions, and estimate air quality through dispersion and photo-chemical modeling. An emission inventory includes estimates of the emissions from various pollution sources in a specific geographical area. In FY 2018, states will continue to develop inventories and submit data to the EPA under an adjusted schedule for the next release of the National Emissions Inventory.

This program supports state and local agency capabilities to provide air quality forecasts for ozone and PM_{2.5} that provide the public with information they can use to make daily lifestyle decisions to protect their health. This information allows people to take precautionary measures to avoid or limit their exposure to unhealthy levels of air quality. In addition, many communities use forecasts for initiating air quality “action” or “awareness” days, which seek voluntary participation from the public to reduce pollution and improve local air quality. Data will be updated on an adjusted schedule to sustain some ability of state and local agencies to provide important public health information to the public.

This program also supports state and local efforts to characterize air toxics problems and take measures to reduce health risks from air toxics, most often through implementation of EPA regulations. For example, this funding supports enforcement of new and revised New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards for major sources (and area sources) by delegated air agencies. This funding also supports characterization work that includes collection and analysis of emissions data and monitoring of ambient air toxics. In FY 2018, funds for air toxic ambient monitoring also will support the National Air Toxics Trends Stations (NATTS), consisting of 27 air toxics monitoring sites operated and maintained by state and local air pollution control agencies across the country, including the associated quality assurance, data analysis, and methods support. States will balance the requirements of the different components of their monitoring enterprise in FY 2018.

Under the visibility requirements of the CAA, FY 2018 work includes base supports for states as they complete first planning period obligations for regional haze and work collaboratively to support SIP submissions associated with the second planning period. In addition, states will be implementing control measures required from their first planning period SIPs. Remaining first planning period obligations include submittal of progress report SIP revisions to ensure that states are making progress toward their visibility improvement goals. Comprehensive regional haze SIP revisions are due 2021 and states will initiate planning for that deadline in 2018.

In FY 2018, the EPA will transition the funding of the PM_{2.5} monitoring network from Section 103 authority of the CAA, which provides 100 percent federal funding, to Section 105 authority of the CAA, which provides a maximum federal share of 60 percent.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-\$68,335.0) This refocuses support for continuing environmental state programs responsible for carrying out air quality implementation activities. The EPA will work with states to target funds to core requirements while providing flexibility to address particular priorities.
 - A major component of this program is air monitoring which is used for providing information to the public, states, and researchers; and
 - States will refocus resources to incorporate any new recommendations as a result

of updated NAAQS monitoring guidance.

Statutory Authority:

Clean Air Act, §§ 103, 105.

Exhibit J

Lawrenceville Toxic Metals Study
MANGANESE

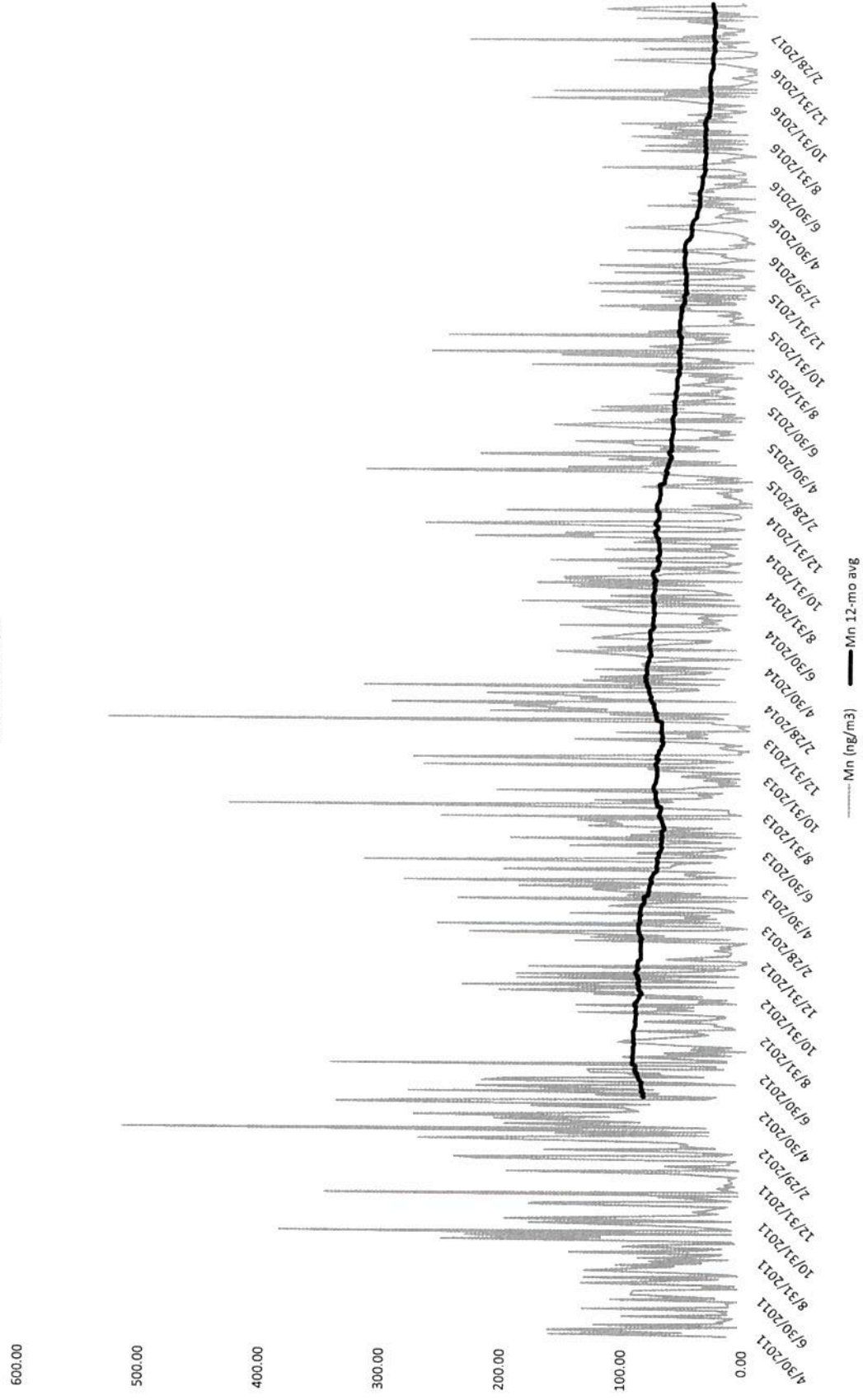
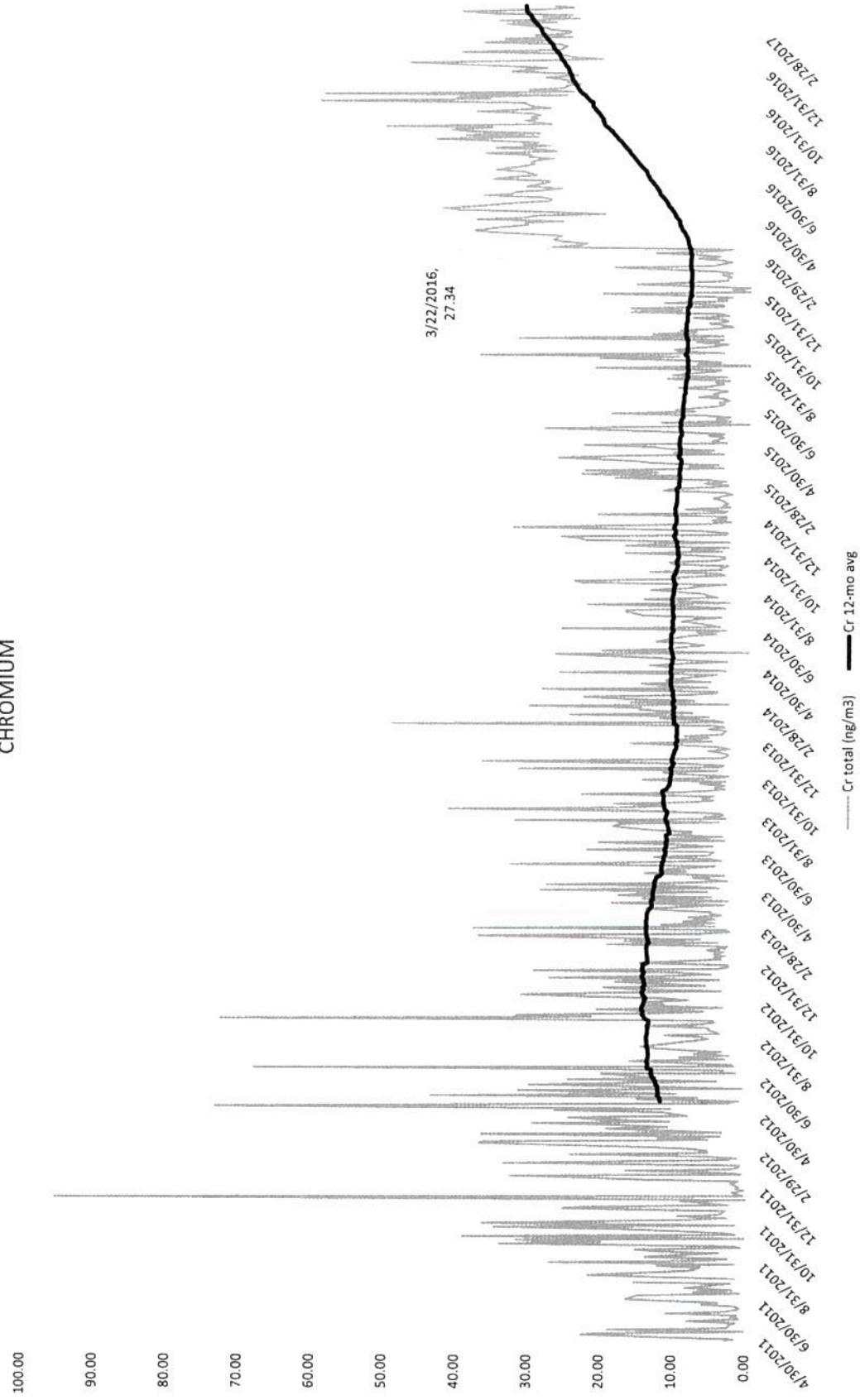


Exhibit K

Lawrenceville Toxic Metals Study
CHROMIUM



Appendix C

Clean Air Council

135 South 19th Street, Suite 300
Philadelphia, Pennsylvania, 19103.

The following document was received via email during the posted comment period and is included here in an unedited form. This document was submitted by Clean Air Council and provides comments regarding the ACHD's Air Monitoring Network Plan for 2018.



**Allegheny County Health Department
Air Monitoring Network Plan for 2018**

June 20, 2017

Written Comments by Clean Air Council

Clean Air Council ("the Council") submits these written comments regarding the proposed Air Monitoring Network Plan for 2018, dated July 1, 2017.

The Council is a non-profit environmental organization headquartered at 135 South 19th Street, Suite 300, Philadelphia, Pennsylvania, 19103. The Council maintains an office in Pittsburgh. For 50 years, the Council has worked to improve air quality across Pennsylvania. The Council has members throughout the Commonwealth who support its mission to protect everyone's right to breathe clean air, including members in Allegheny County. The Council has approximately 8,000 paying members and 30,000 activists.

1. The Department Should Strengthen its Existing Monitoring Program for Air Toxics in the Mon Valley.

A. Air Toxics Continue to Have a Significant and Lasting Effect on the Mon Valley and Pittsburgh

Air quality in Allegheny County is adversely affected not only by criteria pollutants, but also by hazardous air pollutants, or air toxics. This is a particularly bad problem in the Monongahela Valley region, due to the significant amount of coke oven emissions from the Clairton Coke Works. See University of Pittsburgh PRETA Report, <http://www.chec.pitt.edu/documents/PRETA/CHEC%20PRETA%20HAPs%20Report.pdf>. For the year 2015, Clairton released 13 tons of benzene in fugitive emissions and 21 tons of benzene in stack emissions. See EPA Toxic Release Inventory, https://oaspub.epa.gov/enviro/tris_control_v2.tris_print?tris_id=15025SSCLR400ST&pPrev=1. In 2014, the Clairton facility contributed over half of benzene emissions in the county. 2014 Annual Air Emissions Inventory, page 19, http://www.achd.net/air/pubs/pdf/2014_Emissions_Inventory_Report.pdf. Hazardous air pollutants at the Clairton facility also include other organic air pollutants and metallic air pollutants. See Toxic Ten Report, Penn Environment, dated October 26, 2015, available at <http://pennenvironment.org/reports/pae/toxic-ten>, page 17, Table 4.

Historically, the Clairton facility has been in noncompliance with emissions limitations. In 2014, the Department announced that a recently installed Battery C at the facility had been in daily violation of pollution limits since its inception in 2012. *Id.* at 18. Coke oven gas

emissions are categorically listed as a hazardous air pollutant under the Clean Air Act. 42 U.S.C §7412(b). Therefore, the facility's noncompliance with emissions limitations contributes to hazardous air pollutants in the community.

In addition, there is a high cancer risk in the area near this facility. EPA's National Air Toxics Assessment provides risk assessment data for communities throughout the nation. <https://gispub.epa.gov/NATA/>. According to the most recent assessment, the Total Cancer Risk in the Clairton area is as high as 122 in a million. *Id.* Of this figure, the Total Cancer Risk attributable to coke oven emissions is as high as 83 in a million. *Id.* By comparison, the Total Cancer Risk at Flag Plaza (in downtown Pittsburgh) is 65 in a million. Therefore, the Total Cancer Risk at Clairton is nearly twice as high as that at Flag Plaza.

B. The Department Should Make the Information Regarding the Air Toxics Monitoring Studies More Accessible to the Public.

The Council commends the Department for studying hazardous air pollutants from stationary sources in the Mon Valley. The air monitoring network plan mentions studies regarding the Clairton Coke Works area, including 24 hour passive sorbent tube sampling at Liberty, and targeted sampling for benzo[a]pyrene. *See* Draft Plan, page 71. While these studies are ongoing, none of them are specifically identified in the Air Monitoring Network Summary on Table 4. *See* Draft Plan, page 9, Table 4. This is the case with respect to other air toxics studies, except for the one at Flag Plaza. The Department should identify these monitoring activities in this table.

Some of the descriptions of the special studies do not provide much context regarding their purpose. *See* Draft Plan, page 70-73 (discussions regarding Lawrenceville, Kopp Glass, and Clairton monitors). A little more background would be helpful for the public.

In addition, the Department should provide information regarding these monitoring studies in the descriptions relating to the individual monitors. For example, there should be a discussion regarding the air toxics studies at the Liberty monitor on page 33. The Department only provides a discussion for air toxics studies at Flag Plaza. *See id.*, page 57.

Making these changes would help better demonstrate what monitoring efforts are taking place at the sites, and allow the public to better keep track of ongoing monitoring and studies.

The large amount of emissions of hazardous air pollutants from the Cheswick Generating Station are an additional reason why the Department should install a monitoring station near Springdale (*See* discussion in Comment 4, below). *See* https://oaspub.epa.gov/enviro/tris_control_v2.tris_print?tris_id=15024CHSWCPITTS&pPrev=1 (identifying hydrochloric acid, hydrogen fluoride, and other hazardous air pollutants as releases from the facility). The Department should conduct a study of hazardous air pollutants in the

area near this facility. It does not appear that the Department is doing this. See Draft Plan, pages 70-73.

C. The Department Should Make the Daily Reports of Concentration Data on its Website More Useful for Public Use.

Daily reports of air quality data are currently posted to the Department's website at <http://www.achd.net/airqual/DailySummary.PDF>. Criteria pollutant data from all monitors in the county are included. However, hazardous air pollutant data from the Flag Plaza site are not included, even though they are listed as a part of the monitoring network in the draft plan. In addition, hazardous air pollutant data from other sites are not included. The Department should include all monitoring data in this daily summary, so that residents may have a better understanding of the air quality on a given day.

This includes monitoring data included in any studies the Department is currently conducting. Although data from studies are available on request, they would be more easily accessible if posted to the daily summary as they become available. As previously mentioned, this is particularly important given the significant hazardous air pollutant emissions in the county, and the increased cancer rates.

These data are also not accompanied by any explanation to help people understand the concentrations or health effects. When the public is viewing this information, it would be helpful to include some context to make the document more useful for all community members, not just those with a public health background. This type of explanation would also be beneficial for criteria pollutants, as well.

2. The Department Should Install and Operate a Sulfur Dioxide Monitor at the Glassport Location.

The Department discontinued this monitor in 2016 because it was deteriorating and difficult to reach. But this monitor was operated for a number of years, demonstrating it is feasible to operate a monitor at this location.

More importantly, when it was operating the levels of sulfur dioxide were much higher than the Liberty monitor. Should the Department suggest that air quality is improving based on data collected at the Liberty Monitor, it is important for the public to remember that the Department discontinued the operation of the Glassport monitor, and that this monitor at this location could become material to whether the area is determined to be in attainment.

While EPA prefers air modeling over air monitoring for purposes of sulfur dioxide attainment demonstrations (forecasting of attainment in the future), this does not apply to attainment determinations (verification of attainment in the past). See Final Rule, Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 FR 35, 520, 35, 553 (June 20, 2010) ("EPA is still considering how monitoring and modeling data would be used together in specific

situations to define attainment and nonattainment boundaries and under what circumstances it may be appropriate to rely on monitoring data alone to make attainment determinations.”)

In addition, the regulatory formula for calculating the design value (and therefore, determining whether an area is in attainment) necessarily involves actual data from an ambient air quality monitoring site. 40 C.F.R. part 50, Appendix T-Interpretation of the Primary National Ambient Air Quality Standards for Oxides of Sulfur (Sulfur Dioxide), Section 5(a) (Calculation Procedures for the 1-hour Primary SO₂ NAAQS), 5(b) (actual formula). Accordingly, the failure to reactivate the Glassport monitor may become relevant to an accurate determination of air quality in this area.

The Department should install and operate a sulfur dioxide monitor at Glassport.

3. The Department Should Install an Additional Monitor Near the Grandview Golf Course, Which Would Improve the Reliability of Air Modeling Results.

The maximum modeled SO₂ level, as modeled in the proposed 2017 SO₂ SIP revision, was located on the Grandview golf course, in North Braddock. See Proposed SO₂ SIP Revision (2017), page 20. The level at this location was higher than the level at the nearest SO₂ monitoring station approximately 2000 feet away in North Braddock, to the southwest. In order to capture the maximum SO₂ concentration downwind from the industrial facilities, the Department should install an additional monitor near the Grandview golf course property.

The Department conducted a performance evaluation of the dispersion model for only one site, the Liberty monitor. See Appendix G of proposed SO₂ SIP Revision (2017). The Department did this because the Liberty monitor was the only monitor showing nonattainment. A performance evaluation at an additional monitor near the Grandview golf course would provide improved data for evaluating attainment with the national ambient air quality standard. It would also provide better data for evaluating the effectiveness of future models.

The Department has acknowledged that the complex terrain of the Mon Valley makes air modeling more difficult. Being able to conduct performance testing at additional monitored locations would increase the confidence that a model is able to perform well under various conditions and in various areas. This is especially true where the maximum modeled SO₂ impact is located far away from the air monitor reflecting nonattainment, as in the present case.

The Department should install an additional monitor near the Grandview golf course, which would improve the reliability of the air monitoring network and future air modeling efforts.

4. Sulfur Dioxide Emissions from Cheswick Generating Station are not Properly Accounted for; the Department Should Install an Additional Monitor to Measure the Impact of these Emissions.

The Council believes that the reading of the sulfur dioxide do not reflect an actual account of the sulfur dioxide emissions in Allegheny County. Specifically, there is no monitoring station for sulfur dioxide near Springdale, where the Cheswick Generating Station is located. This power plant is the largest source of sulfur dioxide in the County.

The Council and other environmental groups have submitted several comments about this deficiency in connection with the Department's revision to the annual monitoring network. See Air Monitoring Network Plan for 2017 (July 1, 2017), pages 67-69, 72, Appendix A, Sections 1, 2, and 5, http://www.achd.net/air/publiccomment2016/ANP2017_final_7_14.pdf. To date, the Department has not adequately addressed those concerns.

Thank you for your consideration of the comments of the Council.



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